

Programmatic Environmental Assessment for Army 2020 Force Structure Realignment



January 2013



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**Draft Finding of No Significant Impact,
Signature Page, and Chapters 1 through 4.0**

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DRAFT

**FINDING OF NO SIGNIFICANT IMPACT (FNSI) FOR ARMY 2020
FORCE STRUCTURE REALIGNMENT, January 2013**

The National Environmental Policy Act of 1969 (NEPA) requires federal agencies to consider potential environmental impacts prior to undertaking a course of action. NEPA is implemented through regulations promulgated by the Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] Parts 1500-1508); and within the Army by 32 CFR Part 651, *Environmental Analysis of Army Actions*. In accordance with these requirements, the Army has prepared a Programmatic Environmental Assessment (PEA) to consider environmental effects to the Army's installations and training lands that could result from implementation of the Proposed Action to realign Army forces from Fiscal Year (FY) 2013 through FY 2020.

1.0 Title of the Action: Programmatic Environmental Assessment (PEA) for Army 2020 Force Structure Realignment.

2.0 Background Information: The PEA analyzes the potential environmental and socioeconomic impacts associated with realignment of the Army's force structure between FY 2013 and FY 2020 to field a force of sufficient size, capability, and configuration to meet the Nation's current and projected future security and defense requirements. The PEA presents an over-arching perspective that provides decision makers, as well as regulatory agencies and the public, with information on these potential impacts, enabling them to assess and compare those impacts. Decision makers will be able to make informed decisions when selecting an alternative, and, in the future, locations at which to reduce existing force structure or realign units.

The Army is in a period of critical transition as the Nation has concluded major combat operations in Iraq, assesses force requirements in Afghanistan, and develops new strategy and doctrine for future conflicts. During this transition, the Army as part of the Department of Defense (DoD), must identify prudent measures to reduce spending without sacrificing critical operational capabilities necessary to implement national security and defense priorities. To help achieve spending reductions, the Army is decreasing the current total number of Soldiers and civilians, while reorganizing the current force structure. The Army's Active Duty end-strength will decline from a FY 2012 authorized end-strength of 562,000 to 490,000, and will include a reduction of at least eight Brigade Combat Teams (BCTs) from the current total of 45. The PEA evaluates a total potential Soldier population loss of about 126,000 Soldiers and Army civilians (together, military employees). These reductions obviously far exceed what is required to reach an end-strength of 490,000 active component Soldiers. The PEA analyzed the impact of the largest possible gains and losses that are anticipated under current fiscal, policy, and strategic conditions. This broad scope is meant to ensure that senior leaders have a comprehensive understanding of alternatives as they make decisions, now and over the next few years.

In order to meet national security and defense requirements, enhance Army operational effectiveness, and maintain training and operational readiness, while preserving a high quality of life for Soldiers and Families, all at sustainable levels of resourcing, the Army has identified the need to reduce and realign its force structure. This realignment will result in reductions to Army end-strength as well as changes in the configurations of Army units. The intent of force-rebalancing is to enhance operational readiness and the ability to respond to national defense and security challenges, while doing so in a fiscally constrained environment. While the Army is reducing its authorized end-strength, there is also a proposal to restructure its basic building block, the BCT, by adding a 3rd maneuver battalion. Implementation of such a proposal could result in a net growth in the number of Soldiers stationed at some locations evaluated in the

PEA. The Army will also have to make some reductions to the civilian workforce so that it is aligned with, and properly supports, the future force structure.

3.0 Description of Proposed Action: The Army's Proposed Action is to conduct force reductions and realign existing forces from FY 2013 through FY 2020 to shape a force of a size and configuration that is capable of meeting current and future national security and defense requirements. The Army's Active Duty end-strength will decline from an authorized FY 2012 end strength of 562,000 to 490,000. The Proposed Action will implement defense guidance and recommendations, sustain unit equipment and training readiness, and preserve a high quality of life for Soldiers and their Families. Army force realignment would allow for the adjustment of the composition of forces to meet requirements in high demand specialties while rebalancing the number and types of units in lower priority military occupational skill areas. The implementation of Army force rebalancing is necessary to operate in a reduced budget climate, while allowing the Army to field a smaller force that can meet the mission requirements of the current and future global security environment. The Army civilian workforce must also become smaller in tandem with the military force structure, but nevertheless must also meet its changing mission requirements.

The realignment must be consistent with Army transformation, sustain unit equipment and training readiness, preserve Soldier and Family quality of life, and reduce operational costs while maintaining critical capabilities. To implement the Proposed Action fully, units must be stationed at locations that will be able to accommodate unit requirements for training, garrison and maintenance activities, and preserve Soldier and Family quality of life, while still supporting strategic guidance and national security requirements.

4.0 Alternatives: In addition to the No Action Alternative, two action alternatives have been formulated that take into account the Army's needs for Army 2020 Force realignment. Common elements to these alternatives include implementing force reductions and combat support unit realignments from FY 2013 through FY 2020. Both alternatives consider Grow the Army stationing actions that have occurred from FY 2008 to FY 2012 as part of the baseline condition for analysis. Under either alternative, the Army would reduce its end-strength to 490,000. Alternatives carried forward for full analysis are:

Alternative 1: Implement Force Reductions: Inactivate Brigade Combat Teams and Realign both Combat Support and Service Support Units between Fiscal Year 2013 and Fiscal Year 2020

Under this alternative, Army installations would experience end-strength losses through unit inactivations and unit realignments. As a result of the implementation of Alternative 1, the Army would make decisions to inactivate a minimum of eight BCTs and other support units. The structure of BCTs would not change. Table 1 depicts potential force structure reductions at each installation under consideration. These reductions are used as the maximum potential force reductions for the installations. For installations with no BCTs, Alternative 1 assumes a loss of 35 percent of the installation's Soldiers. For each installation with one BCT, Alternative 1 assumes the loss of that BCT (approximately 3,450 for Infantry (I) BCTs, 3,850 for Armored (A) BCTs, and 4,200 for Stryker (S) BCTs), as well as 30 percent of the installation's non-BCT Soldiers. For installations with multiple BCTs, Alternative 1 assumes the loss of a BCT and up to 30 percent of an installation's non-BCT Soldiers. In order to approximate the maximum likely loss, a total of 8,000 was used for these installations. The PEA assumed a maximum possible loss of 8,000 military employees at installations with multiple BCTs. For all installations, the PEA assumes a potential reduction of up to 15 percent in the civilian workforce.

As a result of the implementation of Alternative 1, no installation would experience a net gain of Soldiers, though some support unit realignments would occur. Soldier reductions would also

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include the loss of a corresponding number of Family members at the installation and in the surrounding community. Loss of civilian employees at the installation also might mean that some civilians and dependents would move out of the area.

Reductions at installations other than those evaluated in the PEA could occur as part of Army 2020 Force realignment, but they are not anticipated to exceed 1,000 Soldiers. Therefore, analysis of these reductions was not considered appropriate at the programmatic level, and they are not discussed in the PEA.

In addition, the Army may have to adjust force structure of the Army Reserve Component, and reduce Army Reserve and Army National Guard Bureau end-strength to complement Active Duty force reductions. These changes also are beyond the scope of the PEA.

Table 1. Alternative 1: Force Reduction

Installation Name	Potential Population Loss to be Analyzed ¹	Fiscal Year 2011 Army Population ²	Potential Fiscal Year 2020 Army Population
Fort Benning, Georgia	7,100	39,243	32,143
Fort Knox, Kentucky	3,800	13,665	9,865
Fort Polk, Louisiana	5,300	10,877	5,577
Fort Wainwright, Alaska	4,900	7,430	2,530
Joint Base Elmendorf-Richardson, Alaska	4,300	6,923	2,623
Fort Bliss, Texas	8,000	32,352	24,352
Fort Bragg, North Carolina	8,000	56,983	48,983
Fort Campbell, Kentucky	8,000	32,425	24,425
Fort Carson, Colorado	8,000	25,823	17,823
Fort Drum, New York	8,000	19,079	11,079
Fort Hood, Texas	8,000	47,437	39,437
Fort Riley, Kansas	8,000	20,009	12,009
Fort Stewart, Georgia	8,000	24,622	16,622
Joint Base Lewis-McChord, Washington	8,000	36,777	28,777
Schofield Barracks, Hawai'i	8,000	18,563	10,563
Fort Gordon, Georgia*	4,300	13,864	9,564
Fort Lee, Virginia*	2,400	16,257	13,857
Fort Leonard Wood, Missouri*	3,900	27,213	23,313
Fort Sill, Oklahoma*	4,700	22,444	17,744
Joint Base Langley-Eustis, Virginia*	2,700	9,899	7,199
Fort Irwin, California*	2,400	5,539	3,139

* Non-BCT installation

¹Rounded to the nearest 100. More precise numbers used to calculate 'Potential Fiscal Year 2020 Army Population' are in the PEA.

²Populations include: Army military, Army students, Army civilians (excludes other military service personnel, contractors, and transients). Population reduction numbers include full-time military and civilian projections only.

Source of data is the *Army Stationing Installation Plan* (Feb, 2012).

Alternative 2: Reorganize BCTs: Implement Alternative 1; Inactivate Additional BCTs; and Restructure BCTs to include adding a 3rd Combat Maneuver Battalion

Under Alternative 2, the Army would implement force reductions and realignments discussed as part of the implementation of Alternative 1. In addition, the Army would reduce further the total number of BCTs to provide the additional troops that would be added to the remaining BCT force structure. The implementation of Alternative 2 would result in the inactivation of more BCTs across the Army. The exact number of inactivations would depend on the final force structure designs, number of Soldiers added to each BCT, and number of BCTs that would eventually implement the new force structure design concept. The Army also would restructure BCTs by taking combat maneuver battalions of inactivating ABCTs and IBCTs and adding them to existing ABCTs and IBCTs either at the same location or at other installations. Each realigned combat maneuver battalion would add approximately 700 additional Soldiers per BCT. This alternative would provide those Brigade Commanders with a 3rd combat maneuver battalion to support their operations and enhance the combat power of each BCT. The addition of a combat maneuver battalion to the SBCT is not being considered, since the SBCT already has three combat maneuver battalions. As part of this alternative, the Army would also restructure its engineering units to add a Brigade Engineer Battalion to each ABCT, IBCT, and SBCT, which would add several hundred more Soldiers to the BCT. There may be other augmentations, such as additional indirect fires units, reconnaissance elements, and other combat support unit changes between now and 2020 based on the need to establish the optimum configuration for the BCT and its supporting elements. For planning purposes, and for purposes of analysis in the PEA, it is assumed that 1,000 Soldiers would be added to ABCTs and IBCTs and 500 Soldiers added to SBCTs. The actual numbers may vary slightly as the force structure analysis continues. The numbers used in the PEA reflect the upper range of possible changes. Table 2 depicts the potential force structure gains at each installation.

Table 2. Alternative 2: Installation Gains

Installation Name	Potential Population Gain to be Analyzed	Fiscal Year 2011 Army Population ¹	Potential Fiscal Year 2020 Army Population
Fort Knox, Kentucky	1,000	13,665	14,665
Fort Polk, Louisiana	1,000	10,877	11,877
Fort Wainwright, Alaska*	1,000	7,430	8,430
Joint Base Elmendorf-Richardson, Alaska	1,000	6,923	7,923
Fort Bliss, Texas	3,000	32,352	35,352
Fort Campbell, Kentucky	3,000	32,425	35,425
Fort Carson, Colorado	3,000	25,823	28,823
Fort Drum, New York	3,000	19,079	22,079
Fort Hood, Texas	3,000	47,437	50,437
Fort Riley, Kansas	3,000	20,009	23,009
Fort Stewart, Georgia	3,000	24,622	27,622
Schofield Barracks, Hawai'i*	1,500	18,563	20,063

*Stryker Brigade Combat Team

¹Populations include: Army military, Army students, Army civilians (Excludes other military service personnel, contractors, and transients); Population reduction numbers include full-time military and civilian projections only; Source of data is the *Army Stationing Installation Plan* (Feb, 2012).

Although this restructuring could occur at BCTs assigned to Fort Benning, Fort Bragg, and Joint Base Lewis McChord (JBLM), the projected number of Soldiers at those installations would not increase. Those BCT restructuring increases would be offset by other Soldier reductions. This is because of training area and/or cantonment limitations at those installations which make a net population increase infeasible. Because there would be no increase in population, these installations are not analyzed under Alternative 2.

No Action Alternative:

The No Action Alternative would retain the Army at a FY 2012 end-strength of about 562,000 Active Duty Soldiers, 358,200 Army National Guard Soldiers, 205,000 Army Reserve Soldiers, and more than 320,000 Department of the Army civilians, as is currently authorized. The No Action Alternative assumes that units will remain where they are stationed at the end of FY 2012. Other than ongoing transformation initiatives, no additional units would be realigned. Implementation of the No Action Alternative would not address the Army's needs for force reduction and realignment. Consideration of the No Action Alternative is required by CEQ regulations and also serves as a baseline against which environmental effects of the action alternatives can be compared.

5.0 Summary of Environmental Effects: The analysis of the potential environmental impacts is documented in the PEA for Army 2020 Force Structure Realignment. Tables 3 through 5 provide a summary of impacts. No significant environmental impacts are anticipated to occur in conjunction with the implementation of the Proposed Action. However, significant socioeconomic impacts at many Army installations could occur.

Table 3. Potential Environmental Impacts of the No Action Alternative

Valued Environmental Component	Air Quality	Airspace	Cultural Resources	Noise	Soil Erosion	Biological Resources	Wetlands	Water Resources	Facilities	Socioeconomics	Energy Demand and Generation	Land Use Conflict and Compatibility	Hazardous Materials and Hazardous Waste	Traffic and Transportation
Fort Benning	M	M	M	LS	LS	LS	LS	LS	M	B	M	LS	M	M
Fort Bliss	M	M	N	N	M	N	N	M	N	N	N	M	M	SM
Fort Bragg	M	M	N	M	SM	N	M	N	N	M	M	M	N	SM
Fort Campbell	N	N	N	N	M	N	N	M	N	M	N	N	N	N
Fort Carson/PCMS	LS/M	N/N	N/N	N/N	LS/LS	N/N	M/N	M/N	M/N	N/N	N/N	N/N	M/M	LS/N
Fort Drum	M	N	M	N	N	M	M	N	N	M	M	N	N	M
Fort Gordon	N	N	N	N	N	N	N	N	LS	N	N	SM	N	N
Fort Hood	M	N	N	N	M	M	N	M	N	M	N	N	N	N
Fort Irwin	M	M	M	N	M	M	N	LS	M	M	N	M	M	M
Joint Base Elmendorf-Richardson	LS	M	SM	M	LS	SM	LS	M	M	B	M	M	LS	LS
Joint Base Langley Eustis	M	N	M	N	N	M	M	N	M	M	M	N	M	LS
Joint Base Lewis-McChord	LS	LS	LS	S	N	LS	N	SM	LS	SM	N	M	M	S
Fort Knox	M	N	N	N	M	N	N	M	N	M	N	N	N	N
Fort Lee	N	N	M	N	N	N	N	N	N	B	N	N	N	N
Fort Leonard Wood	N	N	N	N	N	N	N	N	N	B	N	N	N	N
Fort Polk	N	N	N	N	M	N	N	N	N	N	N	N	N	N
Fort Riley	M	N	N	N	M	N	N	M	N	B	N	N	N	N
USAG-HI (O'ahu)/(PTA)	LS/LS	M/M	SM/SM	SM/SM	SM/SM	SM/SM	M/N	M/M	M/M	M/M	LS/LS	LS/LS	M/M	SM/LS
Fort Sill	B	N	LS	SM	N	N	N	N	N	M	N	N	N	M
Fort Stewart	M	M	N	N	M	N	M	M	N	N	N	N	N	M
Fort Wainwright	M	M	SM	M	M	M	M	M	N	M	N	M	N	M

KEY: B = Beneficial, LS = Less than Significant, M = Minor, N = Negligible/No Impact, S = Significant, SM = Significant but Mitigable

Table 4. Potential Environmental Impacts of Alternative 1: Force Reduction of Soldiers and Army Civilians at Installations

Valued Environmental Component	Air Quality	Airspace	Cultural Resources	Noise	Soil Erosion	Biological Resources	Wetlands	Water Resources	Facilities	Socioeconomics	Energy Demand and Generation	Land Use Conflict and Compatibility	Hazardous Materials and Hazardous Waste	Traffic and Transportation
Fort Benning	B	M	M	M	M	M	M	M	B	S	B	M	M	B
Fort Bliss	B	M	M	B	B	B	N	B	N	S	B	M	M	B
Fort Bragg	B	M	M	B	B	B	B	B	B	S	M	M	M	B
Fort Campbell	N	N	N	N	B	N	N	B	B	S	B	N	N	B
Fort Carson/PCMS	B/B	B/B	B/B	B/B	B/B	B/B	B/B	B/B	B/N	S/N	B/N	N/N	B/B	B/B
Fort Drum	M	N	M	N	N	M	B	N	B	S	B	N	N	M
Fort Gordon	N	N	N	N	N	N	N	N	LS	S	N	SM	N	B
Fort Hood	B	N	M	N	B	B	N	B	M	S	B	N	N	B
Fort Irwin	B	B	B	N	B	B	N	B	M	LS	B	M	M	B
Joint Base Elmendorf-Richardson	B	B	SM	B	M	M	B	B	M	S	B	M	LS	B
Joint Base Langley Eustis	B	N	M	B	B	M	B	N	B	S	B	N	M	B
Joint Base Lewis-McChord	M	N	M	LS	N	B	N	B	B	LS	B	B	LS	B
Fort Knox	B	N	M	B	B	N	N	B	M	S	N	N	M	B
Fort Lee	B	N	M	B	N	N	N	N	B	S	B	B	M	B
Fort Leonard Wood	N	N	M	N	N	N	N	N	B	S	B	N	M	B
Fort Polk	B	N	N	N	N	N	N	B	B	S	B	N	M	B
Fort Riley	B	N	M	B	M	B	N	B	M	S	B	N	M	B
USAG-HI (O'ahu)/(PTA)	B/B	B/B	SM/SM	B/B	B/B	B/B	M/M	M/B	B/B	S/N	B/B	B/B	B/B	B/B
Fort Sill	B	N	SM	B	N	N	N	B	B	S	B	B	LS	B
Fort Stewart	B	N	M	B	N	B	B	N	M	S	B	B	M	B
Fort Wainwright	B	B	SM	B	M	M	M	M	M	S	B	M	N	B

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Table 5. Potential Environmental Impacts of Alternative 2: Installation Gain of Combat/Combat Support Soldiers Resulting from Brigade Combat Team Restructuring and Unit Realignments

Valued Environmental Component	Air Quality	Airspace	Cultural Resources	Noise	Soil Erosion	Biological Resources	Wetlands	Water Resources	Facilities	Socioeconomics	Energy Demand and Generation	Land Use Conflict and Compatibility	Hazardous Materials and Hazardous Waste	Traffic and Transportation
Fort Benning	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fort Bliss	M	M	LS	M	M	M	N	LS	N	B	M	M	M	SM
Fort Bragg	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fort Campbell	N	N	N	N	M	N	N	M	LS	B	M	N	N	SM
Fort Carson/PCMS	SM/LS	LS/M	M/M	M/M	SM/SM	LS/LS	M/N	M/M	SM/N	B/N	M/N	M/N	M/M	SM/N
Fort Drum	M	N	M	N	N	M	M	N	M	LS	LS	M	N	M
Fort Gordon	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fort Hood	M	N	M	M	M	M	N	M	M	B	M	N	N	M
Fort Irwin	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Joint Base Elmendorf-Richardson	LS	M	SM	LS	LS	SM	LS	LS	LS	B	M	LS	LS	LS
Joint Base Langley Eustis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Joint Base Lewis-McChord	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fort Knox	M	N	N	M	M	N	N	M	LS	B	N	M	N	M
Fort Lee	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fort Leonard Wood	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fort Polk	M	N	N	N	M	N	M	M	LS	N	N	M	M	M
Fort Riley	M	M	M	M	M	M	N	M	M	S	M	N	N	M
USAG-HI (O'ahu)/(PTA)	LS/LS	M/M	SM/SM	SM/SM	SM/SM	SM/SM	M/N	SM/LS	SM/SM	LS/N	M/M	M/M	LS/LS	SM/LS
Fort Sill	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fort Stewart	M	M	M	M	LS	M	M	M	LS	B	M	M	M	LS
Fort Wainwright	M	M	SM	M	M	M	M	M	M	B	M	M	N	M

KEY: B = Beneficial, LS = Less than Significant, M = Minor, N = Negligible/No Impact, S = Significant, SM = Significant but Mitigable

5.1 Impacts Anticipated as a Result of the Implementation of Alternative 1

Alternative 1 involves the reduction of BCTs and the realignment of both Combat Support and Service Support units. Impacts include:

Air Quality: There would be a beneficial impact to regional air quality from reduced stationary and mobile emission sources at most installations considered under this alternative. There would be less combustion and generation of air pollutants for which there are National Ambient Air Quality Standards (NAAQS) (e.g., ozone, sulfur byproducts, lead) and Hazardous Air Pollutants (HAPs) associated with military training. Construction-related impacts and impacts of facilities demolition would be short-term in duration and would include an increase in dust mobile source emissions from construction vehicles and limited demolition activity. Long-term effects from implementation of Alternative 1 would include a decrease in stationary source emissions, such as from boiler units and generators used in new facilities and by units using transportable generators during training operations. Fewer privately owned and fleet vehicles would decrease air pollutants (e.g., carbon monoxide and ozone) as there would be less traffic on and off post. A net reduction in greenhouse gas and fossil fuel use would occur.

Airspace: No increases in airspace designations would be required to implement Alternative 1. Some beneficial impacts to the National Airspace System may occur as reduced live fire and airspace use would occur, requiring less frequent activation of Military Operational Areas to support training activities.

Cultural Resources: Alternative 1 would result in a reduction of training activities at installations, which would reduce the risk of impact on cultural resources. In the near-term, increased levels of demolition activities could have minor to significant but mitigable impacts. Installations would continue to manage cultural resources in accordance with Integrated Cultural Resource Management Plans (ICRMPs) to ensure that demolition, maintenance, and routine actions and training activities do not cause a significant impact to cultural resources. Before any action with the potential to affect an eligible or potentially eligible resource, the State Historic Preservation Officer (SHPO) would be consulted under Section 106 of the National Historic Preservation Act, as required.

U.S. Army Garrison Fort Wainwright, Alaska (USAG FWA) identified the potential for significant but mitigable impacts to the installation's Historic District (HD). Demolition of facilities within USAG FWA's current HD and/or National Historic Landmark (NHL) site may result in an adverse effect; therefore, Section 106 consultation would be required. Any demolition or repurposing activity occurring adjacent to the HD and/or NHL may also require additional consultation with the SHPO. USAG FWA would avoid potential impacts to cultural resources during planning for potential cantonment area modification. Joint Base Elmendorf – Richardson (JBER), Alaska, U.S. Army Garrison Hawai'i (USAG-HI), Hawai'i, and Fort Sill, Oklahoma also may experience significant but mitigable cultural resource impacts as part of the implementation of Alternative 1.

Noise: There would be a beneficial impact from reduced levels of training. In the short-term, demolition of some buildings may have short-term minor impacts at some installations. Less firing and maneuver activity would reduce nuisance noise impacts for a beneficial impact, though some installations would experience short-term noise impacts from increased facility demolition activities.

Soil Erosion: There would be a beneficial impact from reduced levels of training. In the short-term, demolition of some buildings may have minor impacts by exposure of localized soils in specific areas at installation construction/demolition sites. These impacts would be reduced through best management practices (BMPs) and ensuring that exposed sites are seeded and

covered to limit exposed soils to potential erosion. Less firing and maneuver activity would reduce soils impacts for a beneficial impact.

Biological Resources: There would be a beneficial long-term impact from reduced levels of training to biological resources (e.g., vegetation and wildlife). In the short-term, demolition of some buildings may have short-term, minor impacts to wildlife. Less firing and maneuver activity would reduce biological resource impacts. There would be no significant impacts to threatened and endangered species anticipated because installations would continue to be able to implement conservation plans and measures in support of listed species.

Wetlands: Beneficial to minor wetlands impacts are anticipated because of reduced levels of training.

Water Resources: Negligible to minor surface and groundwater impacts are anticipated at all installations. Application of BMPs would ensure that during demolition of facilities, lead-based paint, and asbestos are properly handled and disposed of, and that any hazardous waste does not enter ground or surface waters. Water demand and treatment requirements would decrease for a beneficial impact at most installations.

Facilities: Overall, beneficial facilities impacts are anticipated at most installations. Some installations would experience minor adverse impacts. Alternative 1 would allow the Army to demolish older outdated, energy inefficient structures and re-evaluate facilities support plans to provide Soldiers and units with better facilities. This alternative would allow the Army to dispose of some temporary and relocatable facilities, while other facilities would be maintained at minimal operational costs for future use. Some installations may need to re-evaluate minimum water treatment capacity requirements of wastewater treatment plants to ensure proper facilities functioning.

Socioeconomics: There could be significant adverse impact to the regional economies of a number of installations. Significant adverse regional economic impacts from force reduction, in terms of sales, employment, regional population, and/or income would be anticipated at Fort Benning, Georgia; Fort Bliss, Texas; Fort Bragg, North Carolina; Fort Carson, Colorado; Fort Campbell, Kentucky/Tennessee; Fort Drum, New York; Fort Gordon, Georgia; Fort Hood, Texas; JBER, Alaska; Joint Base Langley Eustis, Virginia; Fort Knox, Kentucky; Fort Lee, Virginia; Fort Leonard Wood, Missouri; Fort Polk, Louisiana; Fort Riley, Kansas; Fort Sill, Oklahoma; Fort Stewart, Georgia; USAG-FWA, Alaska and USAG-HI, Hawai'i. Less than significant economic impacts would occur in areas with more diversified economies, such as JBLM, Washington. At Fort Irwin, less than significant socioeconomic impacts are also predicted.

Socioeconomic impacts could include greater impacts on lower income populations that provide services to military employees and installations, or where job loss affects communities whose proportion of minority population is higher than the state average. Some school districts may need to re-evaluate staffing plans for schools that could lose military and Army civilian-related students as part of their student populations. In some areas, such as around JBLM, Fort Drum, and USAG FWA, the implementation of Alternative 1 would help to alleviate school crowding in some districts.

Energy Demand and Generation: Beneficial impacts are anticipated at most installations, as installation and regional energy demands would decrease. Some installations such as Fort Bragg, have identified minor energy impacts.

Land Use Conflict and Compatibility: Beneficial impacts could occur, as training land use decreases, allowing for more recreational activities. Fort Gordon has identified significant but mitigable impacts associated with potential land use conflicts.

Hazardous Materials and Hazardous Waste: Negligible to less than significant impacts would result. In the short-term, there would be an increase in the demolition of outdated and no longer needed facilities. This could increase the volume of hazardous waste generated, but it would be within the capacities of the installations' disposal facilities sites. In addition, an increase in asbestos and lead-based paint disposal due to facility reduction is anticipated. Construction workers and Army personnel would dispose of materials in accordance with applicable regulatory requirements, BMPs and standard operating procedures (SOPs), and installation management plans.

Traffic and Transportation: Beneficial impacts are anticipated, as traffic on and off post decreases. Delays at access points would decrease at some installations during morning and evening peak traffic hours. At certain installations such as USAG-HI, JBLM, Fort Bragg, and JBER, traffic back-ups from main gate access points to federal and state highways may be reduced during peak traffic hours. At Fort Drum, minor traffic impacts would occur.

5.2 Impacts Anticipated as a Result of the Implementation of Alternative 2

Alternative 2 includes the implementation of Alternative 1, and therefore, could have the impacts identified above. In addition, because Alternative 2 could lead to growth at some installations with the restructuring of BCTs, there could be additional impacts due to those population and training increases. These additional impacts include:

Air Quality: There would be minor to significant but mitigable impacts to regional air quality from increased stationary and mobile emission sources at the installation considered under this alternative. There would be more emissions of air pollutants for which there are NAAQS and HAPs associated with military training. Construction-related impacts and impacts of facilities demolition would be short-term and would include an increase in dust and mobile source emissions from construction vehicles and limited demolition activity. Long-term effects from implementation of Alternative 2 could include an increase in stationary source emissions such as from boiler units and generators used in new facilities, and by units using transportable generators during training operations, at installations with an overall increase in population. Similarly, more privately owned and additional fleet vehicles would contribute air pollutants (e.g., carbon monoxide and ozone) as more traffic would move on and off post. Installations that may experience these impacts would re-evaluate terms and conditions of their operating permits to determine if they may exceed allowable limits in their generation of air pollutants for their facility. New permits may be needed or mitigation to limit air pollutants may be required.

A nation-wide net reduction in greenhouse gas emissions and fossil fuel use would still occur, in association with the implementation of Alternative 2, as overall Army force structure would be reduced.

Airspace: No increases in airspace designations would be required. Some minor impacts may occur as more live-fire and Unmanned Aerial Systems training would occur in conjunction with unit stationing. Aviation unit stationing is not a major component of the Proposed Action, however, and an increase in the need for additional airspace to support aviation operations is not expected.

Cultural Resources: Alternative 2 would have minor to significant but mitigable long-term impacts from increasing training activities at Army installations that could increase the risk of damage to cultural resources. Increased levels of construction and training activities could have minor to significant but mitigable impacts at Army installations evaluated. Installations would continue to manage cultural resources in accordance with ICRMPs to ensure that demolition, maintenance, training and routine actions do not cause a significant impact to cultural resources. Before any action with the potential to affect an eligible or potentially eligible

resource would be undertaken, the SHPO would be consulted as a part of the Section 106 process.

USAG FWA has identified the potential for significant but mitigable impacts to the installation's HD. Construction, demolition, and/or repurposing of facilities within USAG FWA's current HD and/or NHL sites may result in an adverse effect; Section 106 consultation would be required. USAG FWA would avoid potential impacts to cultural resources during planning for potential cantonment area modification. JBER could have significant but mitigable impacts to yet-to-be discovered cultural resources from construction; however, measures to minimize or mitigate adverse impacts would be implemented. USAG-HI also could have significant but mitigable impacts predicted for its cultural resources. Training areas include numerous historic and religious cultural sites that could experience impacts because of increased maneuver and live-fire training. The Army would continue to manage and consult with Native Hawaiians and the Office of Hawai'ian Affairs and the SHPO to reduce potential impacts.

Noise: There would be minor to less than significant adverse impacts from increased levels of training on installations experiencing overall population increases. Additional firing activity and maneuver activity would be projected to increase noise impacts, though aviation noise impacts would not be projected to increase. As part of Alternative 2, USAG-HI maneuver training noise would remain a significant but mitigable impact on people residing or working on Schofield Barracks.

Soil Erosion: There would be minor to significant but mitigable impacts to soils from increased levels of training on Army installations, as well as limited facilities construction. Additional firing activity and maneuver activity would be anticipated to increase soils impacts and localized exposure of soils to additional wind and water erosion in training areas and on construction sites. Installations would continue to repair maneuver damage by applying Land Rehabilitation and Maintenance programs and monitor land condition.

Significant but mitigable impacts to soils are anticipated at Fort Carson and Piñon Canyon Maneuver Site and USAG-HI. These impacts would be mitigated through implementation of Integrated Training Area Management (ITAM) Program measures and fugitive dust suppression.

Biological Resources: Impacts to biological resources could be minor to significant but mitigable. Installations would continue to implement natural resource management programs to reduce biological impacts. In general, the types and frequencies of training would not increase substantially across Army installations.

Significant but mitigable impacts may occur as a result of an increase in wildfire-generating activities that could alter vegetation composition and local disturbance regimes at the landscape level. JBER and USAG-HI training areas could experience significant but mitigable biological impacts. Measures outlined in the installation Integrated Natural Resources Management Plan (INRMP), Endangered Species Management Plan (ESMP), and as part of Biological Opinion agreements, would be implemented to reduce impacts to less than significant.

Wetlands: Impacts to wetlands would be less than significant at all installations. The Army does not anticipate any substantial or unpermitted loss of wetlands as part of the implementation of Alternative 2. Installations would continue to avoid wetlands impacts when planning, siting and designing new facilities wherever possible and by applying measures to ensure protection of wetlands.

Water Resources: Minor to less than significant impacts to surface and groundwater are anticipated at all installations. Measures would be taken to make sure that during construction of facilities and training, BMPs, and environmental management controls are in place to limit

sedimentation impacts to surface waters. Water demand and treatment requirements would be anticipated to increase but not exceed existing capacity.

Facilities: Overall, less than significant facilities impacts are anticipated at a majority of installations. Though some installations that are included in Alternative 2 have existing facilities capacity or could renovate facilities to meet facilities requirements, other installations may need to add some additional new facilities capacity for additional Soldiers; these installations have buildable space. At Fort Carson, significant but mitigable facilities impacts are anticipated. Fort Carson would require a substantial number of new facilities and upgrades to existing facilities to accommodate the growth of 3,000 Soldiers and their Families.

Socioeconomics: The implementation of Alternative 2 would have beneficial impacts on the regional economies of installations that might have a net gain in military employees. Most installations, however, would still have a net loss of military employment and, therefore, would experience the impacts described for Alternative 1.

Alternative 2 could add to crowding in school districts experiencing a gain in Soldiers and their dependent school-aged children. School districts that support these installations may need to plan for an increase in student population. At Fort Stewart and Fort Riley, a significant increase in the population of the region of influence is anticipated. At Fort Drum and USAG-HI, impacts are anticipated to be less than significant.

Energy Demand and Generation: The implementation of Alternative 2 would result in negligible to less than significant environmental impacts. Regional energy demand could increase slightly with the implementation of Alternative 2, but would not increase to the extent that it would exceed utilities' capacities to provide additional energy. Furthermore, Army installations are striving to increase their energy efficiency and reduce energy consumption as part of their daily operations, so any increased demand will partially be offset by increased efforts to conserve energy.

Land Use Conflict and Compatibility: Minor impacts are anticipated, as installations' requirements for training land use would increase slightly, which could mean less area for recreational activity. In Alaska and Hawai'i, there could be minor impacts to subsistence activities of Native Alaskan tribes and Native Hawai'ians.

Hazardous Materials and Hazardous Waste: Negligible to less than significant impacts would result. Although there could be an increase in the volume of solid waste generated and in the handling of asbestos and lead-based paint, disposal of solid and hazardous waste would be in accordance with regulatory requirements, BMPs and SOPs, and installation management plans.

Traffic and Transportation: Negligible to significant but mitigable impacts would result from the implementation of Alternative 2. Delays at access control points could increase in duration during morning and evening peak traffic hours. At some installations, such as USAG-HI and JBER, traffic back-ups from main gate access points to federal and state highways may increase. At Fort Carson, shortfalls in the installation's on-post transportation system would continue, and add to poor traffic conditions currently being experienced on post that will deteriorate further with FY 2013 stationing of the Combat Aviation Brigade and Soldiers and Family members. At all gaining installations, roadway improvements may be required based on the location of the new units' facilities and projected travel patterns.

6.0 Conclusion: Based on a careful review of the PEA, which is incorporated by reference, I have concluded that no significant environmental impacts, other than socioeconomic impacts, are likely to result from the implementation of the Proposed Action under either of the alternatives analyzed. Therefore, an Environmental Impact Statement (EIS) will not be required. Environmental impacts associated with the implementation of the Proposed Action include

impacts to air quality, airspace, cultural resources, noise, soil erosion, biological resources, wetlands, water resources, facilities, socioeconomics, energy demand, land use, hazardous materials and waste, and traffic and transportation. The continued adherence to the SOPs, BMPs, and various existing installation management plans (e.g., ITAM, INRMP, and ESMP) would ensure no significant impacts, other than socioeconomic impacts, from the Proposed Action. Under either alternative, no specific mitigation measures are needed to reduce the anticipated impacts to less than significant. Appropriate supplemental NEPA analysis and documentation may need to be prepared at the installation level as more details on implementing the Proposed Action become available at a project planning level.

At many installations, the PEA has determined that the socioeconomic impacts could be significant. These impacts are of particular concern to the Army. The CEQ regulations, however, state that economic or social impacts are not intended by themselves to require preparation of an EIS. Therefore, in accordance with Army and federal regulation, the Army is not preparing an EIS. Even though an EIS will not be prepared, the PEA has a comprehensive analysis of the socioeconomic impacts, which will be carefully considered before any decisions are made.

No decision has been made at this time as to which alternative will be implemented or which specific unit realignment decisions will occur. The information in the PEA will be used to support a series of decisions in the coming years regarding how the force is to be realigned. Those decisions will be made based on mission-related criteria and other factors in light of the information contained in the PEA and any future environmental analysis needed to support Army realignment decisions.

This is a Draft FNSI and is available for public comment for 30 days following the publication of the Notice of Availability of the Draft FNSI in the *Federal Register*. Written comments on the PEA and Draft FNSI should be sent to: Public Comments USAEC, Attn: IMPA-AE (Army 2020 PEA), 2450 Connell Road (Bldg 2264), Fort Sam Houston, Texas 78234-7664

John F. Campbell
Lieutenant General, U.S. Army
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Date

Programmatic Environmental Assessment for Army 2020 Force Structure Realignment

January 2013

Approved and Reviewed by the U.S. Army Environmental Command

A handwritten signature in blue ink, appearing to read 'Mark A. Lee', with a stylized flourish at the end.

Mark A. Lee

Colonel, US Army

Commanding

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1 PURPOSE, NEED, AND SCOPE

1.1 Introduction

This Programmatic Environmental Assessment (PEA) conducts an analysis of the environmental and socioeconomic impacts associated with the Proposed Action and alternatives to realign the Army's force structure by 2020. For this and other reasons discussed below, the action is referred to as Army 2020. The Army must field a force of sufficient size, capability, and configuration to meet the Nation's current and projected future security and defense requirements. It must also do so within budget constraints. This PEA looks at possible force structure changes at 21 installations and their associated maneuver training areas. This PEA will not result in a decision on where changes will occur, though information contained in this PEA will support a series of future Army 2020 force structure decisions in the years to come. These decisions will be made based on mission requirements, resource efficiencies, analysis of impacts in this PEA and other factors. This PEA provides an overarching perspective that will provide decision makers, as well as regulatory agencies and the public, with information on these potential impacts, enabling them to assess and compare those impacts and make informed decisions when selecting locations for reduction or realignment of force structure.

The Army is in a period of critical transition as the Nation has concluded major combat operations in Iraq, assesses force requirements in Afghanistan, and develops new strategy and doctrine for future conflicts. During this transition, the Army as part of the Department of Defense (DoD) must identify prudent measures to reduce spending without sacrificing critical operational capabilities necessary to implement national security and defense priorities. To help achieve mandated spending reductions, the Army is decreasing the current total number of Soldiers and civilians, while reorganizing the current force structure. The Army's Active Duty end-strength will decline from a fiscal year (FY) 2012 end strength of 562,000 to 490,000, and would include a reduction of at least eight Brigade Combat Teams (BCTs) from the current total of 45. This PEA looks at total Soldier population loss of about 126,000 Soldiers and Army civilians (military employees). Reductions to this extent are not required to reach an end-strength of 490,000; however, analyzing the larger number provides flexibility to decision makers over the next several years as conditions change. These factors include changing fiscal, policy, and security considerations that are beyond the scope of the Army to control.

In January 2011, the Secretary of Defense announced that the Army would move forward with a force reduction of 27,000 Soldiers from the Army's FY 2012 end-strength of 562,000. The FY 2013 defense budget request calls for a further reduction from the FY 2012 end-strength of 562,000 to 490,000. The 490,000 level in part reflects a \$487 billion decrease in DoD funding over the next decade under the Budget Control Act of 2011.¹

The Army must posture itself to meet national security objectives with potentially reduced levels of resourcing and personnel moving into the future. This will require changes in operations and will require the Department of the Army (DA) to consider how best to make trade-offs between programs and operations while strategically moving forward to preserve and adapt mission capabilities.

In order to meet national security and defense requirements, further Army operational effectiveness, and maintain training and operational readiness (while preserving a high quality of life for Soldiers and Families, all at sustainable levels of resourcing), the Army has identified the need to reduce, reorganize, and rebalance (collectively, "realign") its force structure. This realignment will result in reductions to overall Army end-strength as well as relative numbers of

¹ See "Defense Budget Priorities and Choices"; Department of Defense, January 2012

different types of units. The intent of force rebalancing is to enhance operational readiness and the ability to respond to national defense and security challenges, while preparing to do so in a fiscally constrained environment. The Army must also reduce the strength of its supporting civilian workforce.

The Army's Proposed Action is to conduct force reductions and realign existing forces to a size and configuration that is capable of meeting national security and defense objectives, implements Quadrennial Defense Review (QDR) recommendations, sustains unit equipment and training readiness, and preserves a high quality of life for Soldiers and their Families. Army 2020 realignment would allow for the adjustment of the composition of its forces to meet force requirements in high demand military occupational specialty areas, while rebalancing the number and types of units in lower priority military occupational skill areas. The implementation of Army force realignment will enable the Army to reduce its operational costs, while allowing the Army to field a smaller force that still can meet the mission requirements of the current and future global security environment.

The overall purpose of the Proposed Action is to shape the Army to meet changing mission requirements and to do so in a fiscally sound way. To meet this purpose, the Army must balance resource availability and critical mission requirements while looking for ways to increase operational efficiencies. As part of this effort, the Army must reduce the number of Soldiers on active duty and at the same time reorganize them to ensure the preservation of key defense capabilities. The Army of 2020 will be more agile and cost less than it does today. The Army will have to make optimum use of land and facilities. It will have to be stationed in places that fit the evolving strategic mission. Finally, it must do all of these things in a very cost-efficient manner, implementing changes consistent with defense priorities while preserving the ability to accomplish the mission.

In January, 2012, the DoD issued a document titled "Defense Budget Priorities and Choices" (Budget Priorities and Choices). It stated that achieving savings would be "hard, but manageable. It is hard because we have to accept many changes and reductions in areas that previously were sacrosanct.... It is manageable because the resulting joint force, while smaller and leaner, will remain agile, flexible, ready, innovative, and technologically advanced."

This PEA looks at those Army installations that have the potential to lose 1,000 or more full-time military employees from FY² 2013 to FY 2020, or that have the potential to gain 1,000 or more Soldiers through force restructuring. The 1,000-Soldier/civilian threshold was chosen because it represents a level of increase or reduction at a majority of installations that warrants analysis at the programmatic level. It also represents, in the case of a loss, a number that Army planners thought could produce significant economic impacts. This threshold was recently established by Congress in 10 U.S.C. §993 for reporting of planned reductions of members of the Armed Forces at military installations. The information in this PEA will assist the Army in complying with new Congressional notification requirements, when the Army plans to reduce more than 1,000 Soldiers at an installation. The Budget Priorities and Choices document states that the Army plans to inactivate at least eight BCTs³. BCTs are a fundamental building block of the Army and represent the largest units that might be inactivated at Army installations. Many smaller units, some associated with these BCTs would also face possible inactivation. At the same time, the Army wants to avoid a "hollowing of the force". This would be a force whose structure is preserved, but a force that cannot be adequately equipped or trained, nor could it

² Fiscal year runs from October 1 to September 30.

³ The Budget Priorities and Choices document also states that there will be delays in procurement of new equipment and attempts to slow the growth of costs related to personnel. These initiatives are not considered in this PEA analysis because specific proposals are not known at this time, and because these initiatives would not have immediate environmental impacts that could be evaluated at the programmatic level.

credibly respond to national security threats. As the Army gets smaller, actual units will be inactivated or reconfigured. This process will start with the basic building block of the Army, the BCT. The Army's modular structure and the function of BCTs are explained in Section 1.4.1. As stated above, the cornerstone of the Army's restructuring will be the inactivation of at least eight BCTs.

It is important to remember that the Soldiers in these units would not be discharged from the Army when their units are eliminated. Instead, some would leave the Army through the normal course of events, to include retirement, and others would be reassigned to other units.

This PEA looks at major adjustments that are tied to specific installations. There are many other possible reductions that will come into play as the Army and the DoD make adjustments between now and 2020. All Army installations, even the smallest, will likely have reductions in Soldier-strength. These reductions are also likely to lead to corresponding reductions in the numbers of trainees and students in Army schools, as overall training requirements diminish. There could also be reductions in the number of civilian employees at most Army installations.

The changes to the Army will be made gradually, and will be subject to periodic adjustment as national defense requirements are periodically reassessed. This PEA provides Army decision makers with an analysis of the environmental and socioeconomic impacts associated with the proposed realignment the Army's force structure by FY 2020.

In the 21st Century Strategic Guidance, the DoD introduced the term "Joint Force of 2020." The date indicates a goal for achieving the long-range transformation outlined in the strategy. The Chief of Staff of the Army (CSA) issued "Marching Orders" that stated as a goal, "Develop the force of the future, Army 2020 as part of Joint Force 2020 – a versatile mix of capabilities, formations, and equipment." Army planners have also begun using the term "Army 2020" to reflect our participation in the joint transformation and as a way to represent the process by which the Army will transform between FY 2013 and FY 2020. This PEA, therefore, uses "Army 2020" as the title of its Proposed Action.

1.2 Purpose and Need of the Proposed Action

The purpose of the Proposed Action is to shape the Army to meet changing mission requirements and to do so in accordance with budgetary constraints. The President stated that we must "meet the challenges of this moment responsibly and ... emerge even stronger in a manner that preserves American global leadership, maintains our military superiority and keeps faith with our troops, military Families, and veterans⁴". The President concluded: "The fiscal choices we face are difficult ones, but there should be no doubt – here in the United States or around the world – we will keep our Armed Forces the best-trained, best-led, best-equipped fighting force in history. In a changing world that demands our leadership, the United States of America will remain the greatest force for freedom and security that the world has ever known."

According to the 21st Century Strategic Guidance, the missions of the United States (U.S.) Armed Forces are:

- **Counter Terrorism and Irregular Warfare.** Acting in concert with other means of national power, U.S. military forces must continue to hold al-Qa'ida and its affiliates and adherents under constant pressure, wherever they may be. *Achieving our core goal of disrupting, dismantling, and defeating al-Qa'ida and preventing Afghanistan from ever being a safe haven again will be central to this effort.* As U.S. forces draw down in Afghanistan, our global counter terrorism efforts will become more widely distributed and will be characterized by a mix of direct action and security force assistance. Reflecting

⁴ President's Guidance, Jan. 3, 2012

lessons learned of the past decade, we will continue to build and sustain tailored capabilities appropriate for counter terrorism and irregular warfare. We will also remain vigilant to threats posed by other designated terrorist organizations, such as Hezbollah.

- **Deter and Defeat Aggression.** U.S. forces will be capable of deterring and defeating aggression by any potential adversary. *Credible deterrence results from both the capabilities to deny an aggressor the prospect of achieving his objectives and from the complementary capability to impose unacceptable costs on the aggressor.* As a Nation with important interests in multiple regions, our forces must be capable of deterring and defeating aggression by an opportunistic adversary in one region even when our forces are committed to a large-scale operation elsewhere. Our planning envisages forces that are able to fully deny a capable state's aggressive objectives in one region by conducting a combined arms campaign across all domains – land, air, maritime, space, and cyberspace. This includes being able to *secure territory and populations and facilitate a transition to stable governance on a small scale for a limited period using standing forces and, if necessary, for an extended period with mobilized forces.* Even when U.S. forces are committed to a large-scale operation in one region, *they will be capable of denying the objectives of – or imposing unacceptable costs on – an opportunistic aggressor in a second region.* U.S. forces will plan to operate whenever possible with allied and coalition forces. Our ground forces will be responsive and capitalize on balanced lift, presence, and prepositioning to maintain the agility needed to remain prepared for the several areas in which such conflicts could occur.
- **Project Power Despite Anti-Access/Area Denial Challenges.** In order to credibly deter potential adversaries and to prevent them from achieving their objectives, the U.S. must maintain its ability to project power in areas in which our access and freedom to operate are challenged. In these areas, sophisticated adversaries will use asymmetric capabilities, to include electronic and cyber warfare, ballistic and cruise missiles, advanced air defenses, mining, and other methods, to complicate our operational calculus. Other countries will continue to pursue asymmetric means to counter our power projection capabilities, while the proliferation of sophisticated weapons and technology will extend to non-state actors as well. *Accordingly, the U.S. military will invest as required to ensure its ability to operate effectively in anti-access and area denial environments.* This will include implementing the Joint Operational Access Concept, sustaining our undersea capabilities, developing a new stealth bomber, improving missile defenses, and continuing efforts to enhance the resiliency and effectiveness of critical space-based capabilities.
- **Counter Weapons of Mass Destruction.** U.S. forces conduct a range of activities aimed at preventing the proliferation and use of nuclear, biological, and chemical weapons. These activities include implementing the Cooperative Threat Reduction (Nunn-Lugar) Program, and planning and operations to locate, monitor, track, interdict and secure weapons of mass destruction (WMD) and WMD-related components and the means and facilities to make them. They also include an active whole-of-government effort to frustrate the ambitions of nations bent on developing WMD, to include preventing Iran's pursuit of a nuclear weapons capability. In partnership with other elements of the U.S. Government, DoD will continue to invest in capabilities to detect, protect against, and respond to WMD use, should preventive measures fail.
- **Operate Effectively in Cyberspace and Space.** Modern Armed Forces cannot conduct high-tempo, effective operations without reliable information and communication networks and assured access to cyberspace and space. Today, space systems and their supporting infrastructure face a range of threats that may degrade, disrupt, or destroy assets. *Accordingly, DoD will continue to work with domestic and international allies and*

partners and invest in advanced capabilities to defend its networks, operational capability, and resiliency in cyberspace and space.

- **Maintain a Safe, Secure, and Effective Nuclear Deterrent.** As long as nuclear weapons remain in existence, the U.S. will maintain a safe, secure, and effective arsenal. We will field nuclear forces that can, under any circumstances, confront an adversary with the prospect of unacceptable damage, both to deter potential adversaries and to assure U.S. allies and other security partners that they can count on America's security commitments. *It is possible that our deterrence goals can be achieved with a smaller nuclear force*, which would reduce the number of nuclear weapons in our inventory as well as their role in U.S. national security strategy.
- **Defend the Homeland and Provide Support to Civil Authorities.** U.S. forces will continue to defend U.S. territory from direct attack by state and non-state actors. We will also come to the assistance of domestic civil authorities in the event such defense fails or in case of natural disasters, potentially in response to a very significant or even catastrophic event. Homeland defense and support to civil authorities require strong, steady state force readiness, to include a robust missile defense capability. Threats to the homeland may be highest when U.S. forces are engaged in conflict with an adversary abroad.
- **Provide a Stabilizing Presence.** U.S. forces will conduct a sustainable pace of presence operations abroad, including rotational deployments and bilateral and multilateral training exercises. These activities reinforce deterrence, help to build the capacity and competence of U.S., allied, and partner forces for internal and external defense, strengthen alliance cohesion, and increase U.S. influence. A reduction in resources will require innovative and creative solutions to maintain our support for allied and partner interoperability and building partner capacity. *However, with reduced resources, thoughtful choices will need to be made regarding the location and frequency of these operations.*
- **Conduct Stability and Counterinsurgency Operations.** In the aftermath of the wars in Iraq and Afghanistan, the U.S. will emphasize non-military means and military-to-military cooperation to address instability and reduce the demand for significant U.S. force commitments to stability operations. U.S. forces will nevertheless be ready to conduct limited counterinsurgency and other stability operations if required, operating alongside coalition forces wherever possible. Accordingly, U.S. forces will retain and continue to refine the lessons learned, expertise, and specialized capabilities that have been developed over the past 10 years of counterinsurgency and stability operations in Iraq and Afghanistan. *However, U.S. forces will no longer be sized to conduct large-scale, prolonged stability operations.*
- **Conduct Humanitarian, Disaster Relief, and Other Operations.** The Nation has frequently called upon its Armed Forces to respond to a range of situations that threaten the safety and well-being of its citizens and those of other countries. U.S. forces possess rapidly deployable capabilities, including airlift and sealift, surveillance, medical evacuation and care, and communications that can be invaluable in supplementing lead relief agencies, by extending aid to victims of natural or man-made disasters, both at home and abroad. DoD will continue to develop joint doctrine and military response options to prevent and, if necessary, respond to mass atrocities. U.S. forces will also remain capable of conducting non-combatant evacuation operations for American citizens overseas on an emergency basis. The aforementioned missions will largely determine the shape of the future Joint Force. The overall capacity of U.S. forces, however, will be based on requirements that the following subset of missions demand:

counter-terrorism and irregular warfare; deter and defeat aggression; maintain a safe, secure, and effective nuclear deterrent; and defend the homeland and support civil authorities.

In addition to the 21st Century Strategic Guidance referenced above, source documents referenced in this section include the National Security Strategy (NSS, 2010), Defense Strategic Guidance (DSG) (Jan, 2012), the National Military Strategy (NMS, 2011), the QDR (2010), and the Army Campaign Plan. Army 2020 realignment must meet the requirements defined in these guiding national security and defense policy documents, which lay the framework for the Army mission and how the U.S. will utilize its military to deter conflict and shape the global security environment. While the documents above define the Army's requirements to take action from an organizational perspective, this section also discusses the needs of the Army from a unit level perspective, and requirements to maintain training readiness and Soldier and Family quality of life.

The need for the Proposed Action is derived primarily from the Army's need to meet strategic security and defense objectives while balancing manning, training, equipping, stationing, and deployment and readiness activities with reduced levels of funding and personnel. The intent of Army 2020 rebalancing is to maximize operational readiness while preparing to meet national security objectives with potentially reduced levels of resourcing. This requires the Army to prioritize among force structure, programs, and operations while strategically moving forward to preserve and maintain mission capabilities.

The need for the Proposed Action focuses on four primary areas:

- **Matching Army Force Structure and Capabilities with Mission Requirements.** The Army must determine the best mix of capabilities and stationing concepts to achieve the greatest degree of effectiveness to carry out national security priorities. The DSG, NSS, and NMS provide a framework which directs Army mission requirements and contingency planning. The Army must be able to meet the Nation's security and defense policy objectives as defined in these documents. The Army Campaign Plan is the Army's guiding document for managing operational and generating forces (See Section 1.2.1.2) and carrying out recommendations put forth in the QDR.
- **Sustaining Force Readiness.** Sustaining the force entails ensuring that the Army consists of enough Soldiers to support mission requirements abroad, while providing enough time to units at home station to train and maintain equipment. Striking the proper balance of these activities is critical to ensure a professional, well-trained, and well-equipped force can consistently meet unit readiness standards and successfully accomplish national security and defense missions.
- **Preserving Soldier and Family Quality of Life and the All-Volunteer Force.** Maintaining a long-term sustainable balance between operational activities and maintaining a quality of life for Soldiers and their Families is critical to maintaining Army capabilities. Balancing operations and deployments with quality of life reduces stress placed on individual Soldiers and their Families and allows the Army to more effectively manage the all-volunteer force. In turn, this encourages Soldier retention and attracts qualified new recruits making the Army a more effective and capable organization.
- **Adapting the Force to Reduce Army Expenditures.** In order to support increased national security posture following the September 11, 2001 terrorist attacks, the DoD budget increased by approximately 119 percent from FY 2001 to FY 2010 (Sustainable Defense Task Force, 2010). During this timeframe, the DoD achieved many of the Nation's critical security objectives to include disrupting terrorist organizations and securing the U.S. from direct attack. In May 2010, an updated NSS was released that

recognizes that current levels of DoD funding must be re-evaluated and adjusted to take into account a sustainable balance of current security priorities and the broader threats of fiscal imbalance. The 2011 Budget Control Act requires DoD to reduce expenditures by \$487 billion over the next 10 years. As the 21st Century Strategic Guidance points out, deficit reduction through a lower level of defense spending is itself a national security imperative. The NSS broadly summarizes the need to balance security priorities and spending priorities:

At the center of our efforts is a commitment to renew our economy, which serves as the wellspring of American power... Rebuilding our economy must include putting ourselves on a fiscally sustainable path. As such, implementing our national security strategy will require a disciplined approach to setting priorities and making tradeoffs among competing programs and activities. Taken together, these efforts will position our nation for success in the global marketplace, while also supporting our national security capacity—the strength of our military, intelligence, diplomacy and development, and the security and resilience of our homeland.

In his Congressional testimony, the CSA summarized part of the need for implementing Army 2020:

Our Army must remain a key enabler in the Joint Force across a broad range of missions, responsive to the combatant commanders and maintain trust with the American people. It's my challenge to balance the fundamental tension between maintaining security in an increasingly complicated and unpredictable world, and the requirements of a fiscally austere environment. The U.S. Army is committed to being a part of the solution in this very important effort (General Odierno, 2011).

Finally, the 21st Century Strategic Guidance stated:

The balance between available resources and our security needs has never been more delicate. Force and program decisions made by the Department of Defense will be made in accordance with the strategic approach described in this document, which is designed to ensure our Armed Forces can meet the demands of the U.S. National Security Strategy at acceptable risk.

1.2.1 Matching Army Force Structure and Capabilities with Mission Requirements

The Army is a land-based military force that is organized, trained, and equipped to protect the Nation's global security interests and provide for national defense. The Army does this primarily through prompt intervention and sustained combat, peacekeeping enforcement, and support and stability operations in key regions of interest defined by national strategic policies and objectives. As Commander in Chief of the Armed Forces, the President, in conjunction with his security advisors, promulgates and defines national security and defense policy. Using these policies as strategic guidance, military commanders conduct contingency planning to ensure that their forces are able to respond to crises, shape the global security environment, and implement security and defense policies in their regions of interest. The Army is responsible for the implementation of national security and defense policy as outlined in these over-arching security and defense policy documents.

The President establishes the Nation's goals and objectives for promoting secure global conditions and for shaping of the global security environment. The NSS establishes the policy goals and objectives that begin to shape mission requirements for the DoD and DA. The 2010 NSS *National Security Strategy* reaffirmed America's commitment to retaining its global leadership role and defined our enduring national interests to secure U.S. citizens, support a strong economic system, and work with allies and partners to promote peace and security while addressing global security challenges. The NSS provides direction and guidance to inform DoD and DA Commanders and planners in establishing a framework for formulation of the National Defense Strategy.

In addition to the NSS, the President and Secretary of Defense issued additional national security strategy guidance in January 2011. The 21st Century Strategic Guidance stated that "The DoD will manage the force in ways that protect its ability to regenerate capabilities that might be needed to meet future, unforeseen demands, maintaining intellectual capital and rank structure that could be called upon to expand key elements of the force." Thus, the Army and other service branches will ensure that the training force required to generate trained and ready Soldiers remains intact to accomplish necessary training missions.

Analyses in the QDR pointed emphatically to two overarching conclusions. The first is that U.S. forces would be able to perform their missions more effectively—both in the near-term and against future adversaries—if they had more and better key enabling capabilities at their disposal. These enablers include rotary-wing aircraft, unmanned aerial systems (UAS), intelligence analysis and foreign language expertise, and tactical communications networks for ongoing operations, as well as more robust space-based assets, more effective electronic attack systems, more resilient base infrastructure, and other assets essential for effective operations against future adversaries.

The second theme to emerge from QDR analyses is the importance of ensuring that U.S. forces are flexible and adaptable so that they can confront the full range of challenges that could emerge from a complex and dynamic security environment. The recommendations of the QDR will accelerate the evolution of our Armed Forces toward a mix of activities and capabilities better suited to the demands of the emerging security environment. To implement QDR recommendations, the Army must reconfigure the numbers and types of combat and combat support forces and adjust unit equipping strategies and acquisition programs.

Specific QDR recommendations include:

- Enhancing capabilities for domain awareness and cyber security;
- Accelerating the development of standoff radiological/nuclear detection capabilities;
- Fielding faster, more flexible consequence management response forces including chemical, biological, radiological, nuclear, and high-yield explosives response forces;
- Increase the availability of rotary-wing assets to enable a more expeditionary force;
- Expand manned and unmanned aircraft systems for intelligence, surveillance, and reconnaissance;
- Expand intelligence, analysis, and targeting capacity;
- Increase Special Operations Force assets to include logisticians, communications assets, information support specialists, forensic analysts, and intelligence experts;
- Increase counter-insurgency capabilities, stability operations capabilities, and counter-terrorism competency and capacity in general purpose forces;
- Expand civil affairs capacity; and
- Build the Security Capacity of Partner states.

1.2.1.1 National Military Strategy

The purpose of the NMS is to provide the ways and means by which the military will advance enduring national interests as explained in the 2010 NSS and accomplish the defense objectives in the 2010 QDR. Those national military objectives are:

1. **Counter Violent Extremism.** The Nation's strategic objective is to disrupt, dismantle, and defeat al-Qa'ida, its affiliates, and other extremist organizations that resort to violence and to prevent their organization and re-establishment.
2. **Deter and Defeat Aggression.** This military objective includes the dissuasion, deterrence, and defeat of organizations and states that seek to harm the U.S. and its citizens directly.
3. **Strengthen International and Regional Security.** A secure international system requires collective action. The U.S. has an interest in broad-based and capable partnerships with like-minded states. This objective seeks to strengthen security relationships with traditional allies and friends, developing new international partnerships, while working to increase the capabilities of our partners to contend with common challenges.
4. **Shape the Future Force.** The DoD and Army strategy is focused on fielding a modular, adaptive, general purpose force that can be employed in the full range of military operations. The Army, working with Joint Forces partners, will improve its ability to surge on short notice, deploy agile command and control systems, and be increasingly interoperable with other U.S. Government agencies. The Army will continue to focus on becoming more expeditionary in nature with a smaller logistical footprint in part by reducing large fuel and energy demands. The Joint Force must ensure access, freedom of maneuver, and the ability to project power globally through all domains. While implementing Army force reductions, it will be critical that the Army maintain a tailorable mix of networked organizations that can operate on a rotational basis with joint service and multinational coalitions. In accordance with new defense priorities, the Army of 2020 must have a versatile mix of formations and equipment that is lethal, agile, adaptable, and responsive. As the Army undergoes this transition, it will prioritize force structure and Joint Force assets to focus on the Pacific Region and Middle East to fulfill the Nation's strategic defense priorities. As the Army repostures and realigns, it will continue to improve its cyberspace and cyber defense capabilities.

1.2.1.2 Army Campaign Plan and Transformation

The Army Campaign Plan serves as the Army's roadmap to implementing the goals and objectives put forth in the QDR and its overarching planning document that guides Army Transformation. To implement decisions made in the QDR, senior Army leadership is responsible for developing and managing the Army's force structure. The process of Army force management is not a static one; force management decision making is an evolving process that is based on changing global conditions and mission requirements. As mission requirements increase or decrease, Army leadership has recognized the need to re-evaluate the size and unit composition of the modular force. This evaluation and determination to change the size or structure of the modular force will take mission requirements into account and will build on previous decisions that direct the Army to transform to a modular force.

1.2.1.3 Summary of Strategic Requirements

The policies and guidance put forth in strategic defense documents provide directives and explicit guidance for the Army to adjust its capabilities to project power rapidly to prevent, deter,

or defeat the actions of those who would do the Nation harm while maintaining stability in key regions of interest. Effective deterrence requires that those who would undermine U.S. security have awareness that U.S. defense forces can credibly act to halt those activities that threaten U.S. national security. Rapid power projection to respond to the wide range of potential contingencies present in an increasingly complex global security environment is a foundational capability needed to support national security. The Army remains committed to its strategic goal of having the capability to deploy a BCT anywhere in the world within a few days of notification. This requires advance planning to respond to contingencies in key areas of interest and detailed planning based on a unit's deployment facilities, logistics, and available transportation. Deployment considerations and Combatant Commanders' force requirements assist the Army in selecting stationing locations that can support contingency operations and national defense requirements. As the Army reduces its overall end-strength, the Army must plan and structure its forces to provide the capabilities to implement defense policies and guidance put forth in the NSS, NMS, and QDR.

1.2.2 Sustaining Force Readiness

While at home station, it is critical that Army units retain or develop those skills necessary to deploy and execute their respective mission. Effective training, carried out to a high doctrinal standard, is the cornerstone of operational success. High quality training, which prepares Soldiers for what will be encountered in the operational environment, is essential to ensuring the success of the Nation's strategic defense objectives, to national security, and to the safety of those who serve.

A critical element of need for the permanent stationing of units as part of Army 2020 is ensuring that units can attain high levels of training proficiency to prepare for future missions and deployment abroad. Training and qualifying Soldiers and units typically requires three types of training facilities: individual and crew weapons qualification ranges; live-fire range complexes that allow units to conduct live-fire training simultaneously as one team; and maneuver areas for units to rehearse and train on the full complement of mission essential tasks required by a unit's training doctrine. In addition, to live training, the Army also augments its leader development and unit training strategies with virtual and battle simulations. This training is necessary for Army units to execute a full array of combat, stability, and peace support operations as part of preparations for the full spectrum of potential future operations.

The level of combat readiness of an Army unit is directly related to the availability and capability of its supporting training infrastructure. All modular BCTs require a full suite of supporting training infrastructure to meet individual, crew, and collective unit training requirements to be certified for operational deployments. Unit range requirements are fully articulated along with range specifications and standard designs in Army Training Circular (TC) 25-8 *Army Training Ranges*, which serves as the definitive source document for Army training range requirements. Locations selected for the stationing of Army units as part of the consolidation or realignment of Army units must possess or be able to accommodate the construction of range requirements for the unit so that the unit can adequately train to meet doctrinal training readiness standards.

In addition to adequate firing ranges, installations must have enough combat maneuver space for units to be able to rehearse and execute a full range of combat and peace support operations, and to certify themselves as a deployable unit. TC 25-1 *Training Land* serves as the definitive source document for requirements for maneuver land training.

1.2.2.1 Readiness and Garrison Operations Facilities

When an Army unit is not deployed it requires adequate garrison facilities to conduct routine operations and maintenance to sustain its equipment. Garrison operations ensure the unit is

administratively prepared and functionally equipped to support deployment operations. This requires dedicated administrative office space for its Soldiers, motor pools, vehicle maintenance facilities, weapons armories, and many other administrative facilities needed to ensure successful garrison preparation and maintain operational readiness. The U.S. Army Corps of Engineers (USACE) has designed and implemented a program of standard facilities requirements for Army units. These standards ensure that the Army provides adequate facilities for its units. Stationing sites selected must be able to accommodate unit garrison operations and construction of necessary support facilities, if needed, as an essential component of need for the stationing of new units.

1.2.3 Preserving Soldier and Family Quality of Life and the All-Volunteer Force

Preserving Soldier and Family quality of life and the all-volunteer force are two of the Army's highest priorities and concepts that are inseparably linked. The Army strives to maintain the highest possible quality of life for those who serve by establishing deployment predictability and balancing the timeframes for which Soldiers are deployed away from home station against mission requirements.

Meeting the needs of the Soldiers and their Family members means having access to quality schools, medical facilities, housing, services, and recreation opportunities. In a typical Army Brigade of between 3,500-4,000 Soldiers, approximately 55 percent of Soldiers are married and may be accompanied by more than 1,800 spouses and 3,400 children. Army installations are used not only for military training, but are also the communities where Families remain behind and are supported as members of the Army community where they live. The Army is absolutely committed to providing the highest quality of life that can be attained for the Soldiers and their Families who have endured multiple deployments. Stationing locations considered must have or be able to build housing and living space, schools, and medical facilities, and support the recreational opportunities for the Soldiers and Families. Retaining the all-volunteer force has been defined by the Senior Leadership of the Army as an essential component for sustaining a high quality force capable of implementing the Nation's defense and security needs.

1.2.4 Adapting the Force to Reduce Expenditures

The NSS and NMS increasingly recognize the connection between national economic prosperity and security goals and objectives. The NMS (2011) states that, *"The United States will remain the foremost economic and military power for the foreseeable future, though national debt poses a significant national security risk"*. Defense spending rose considerably in response to attacks on the homeland. Defense spending is the largest discretionary component of federal spending (Sustainable Defense Task Force, 2010). Implementing the NSS envisioned by the Army would be aimed at achieving a more balanced and fiscally sustainable path moving forward. It will require a disciplined approach to setting priorities and making tradeoffs among competing programs and activities while focusing on implementing key DoD objectives.

1.3 Ongoing Army Initiatives (Army Modular Forces and Global Defense Posture Realignment)

Decisions that shape the Army 2020 must take into consideration current and ongoing Army initiatives to include the Army Modular Forces (AMF) initiative and the Global Defense Posture Realignment (GDPR) that evaluates U.S. force levels and requirements outside of the U.S. Each of these initiatives is discussed in greater detail below.

1.3.1 Army Modular Forces

For several years, the Army has been implementing the AMF initiative. Transformation under this initiative makes the Army more modern and enables it to deploy to meet evolving

contingencies. The reduction in size of the Army will involve these transforming forces and must be consistent with force modernization. For this reason, a detailed discussion of AMF is appropriate.

As a part of the overall Army transformation effort, the Army has transitioned to a modular or standardized force structure at all levels of its organization. This process of modular standardization has entailed a change to self-contained, logistically supportable brigade-sized units of 3,400-4,200 Soldiers referred to as BCTs. The units within these BCTs are similar in their equipment and manning. The modular initiative allows for greater levels of planning and organizational efficiency.

There are three primary types of BCTs that are designed to be self-contained, deployable, expeditionary units in nature, that can be augmented with other units to support the intent of theater commanders.

- **Infantry Brigade Combat Team.** The Infantry Brigade Combat Team (IBCT) consists of approximately 3,400-3,500 Soldiers and 950 wheeled vehicles. The unit is designed for rapid deploy ability, speed, and agility, but lacks firepower, protective armaments, and staying power to sustain engaged conflict against an opposing armored force.
- **Armored Brigade Combat Team.** The Armored Brigade Combat Team (ABCT)⁵ is composed of M1 Abrams tanks, M2 Bradley fighting vehicles and supporting tracked and wheeled vehicles. When fully manned, the ABCT consists of approximately 3,850 Soldiers. This type of unit has considerable firepower and protective armament, but requires more logistical support to deploy, and lacks the maneuverability and agility of the IBCT. In addition, the ABCT requires more logistics support to sustain its military operations once deployed.
- **Stryker Brigade Combat Team.** The Stryker Brigade Combat Team (SBCT) provides the Army with capability that offsets the strategic gaps between the capabilities of the ABCT and IBCT. The SBCT consists of approximately 4,200 Soldiers, 320-330 Stryker vehicles, and 500-600 wheeled support vehicles. The SBCT provides levels of deployability, maneuverability, firepower, communications capability, and armament that allow the unit to accomplish a broad range of operations. Its increased mobility and digital communications capability make the unit ideal for conducting urban and small scale contingency operations.

As part of the implementation of the Proposed Action, the Army is considering changes to the modular structure of these BCTs. Changes could include the addition of another combat maneuver battalion, the addition of an engineering battalion within these BCTs, or additional changes to Combat Support Units included within BCTs. Augmentation of modular BCTs, if pursued, would be intended to enhance the expeditionary capabilities and combat power of the modular BCT to meet a broader array of mission requirements.

In addition to the BCTs that represent the Army's primary ground combat forces; there are five other types of brigades which support the ground operations of the BCT. At a minimum, these supporting brigades consist of a modular standardized headquarters that have fixed manning and equipment requirements. The remaining structure of support brigades, however, is tailorable to the needs of the mission commanders. With the exception of aviation brigades, these units, therefore, have no set number of Soldiers and vehicles.

- **Fires Brigade.** The fires brigade uses mounted and towed artillery and Multiple Launch Rocket Systems (MLRS) to provide close support and precision strikes. The brigade

⁵ The ABCT was formerly referred to under the Army Modular Forces concept as a Heavy BCT or HBCT. This HBCT, consisting of tanks and other armored mechanized vehicles, is now referred to as an ABCT.

employs artillery within the unit but also can control and direct the fires of other Armed Forces or coalition partners.

- **Aviation Brigade.** There are several types of aviation brigades, each with a different function. Aviation Brigades include Combat Aviation Brigades (CABs); Medium and Heavy lift Aviation Brigades, and multi-functional Aviation Brigades. Aviation Brigades typically consist of over 100 helicopters and 2,000 to 3,000 Soldiers.
- **Battlefield Surveillance Brigade.** The Battlefield Surveillance Brigade (BfSB) provides reconnaissance, surveillance, target acquisition, and intelligence support to build the common operational picture, and focus the efforts and resources of the Army and its sister services.
- **Combat Support Brigade (Maneuver Enhancement Brigade).** The Maneuver Enhancement Brigade (MEB) enables, enhances, and provides freedom of maneuver and engineering support to an Army, joint, or multinational headquarters. The MEB augments maneuver and support brigades with functional assets to provide combat maneuverability and focused logistics across multiple areas of operation and can provide a headquarters to command and control an assigned area of operations including maneuver forces.
- **Sustainment Brigade.** The Sustainment Brigade (SUSBDE) consists of a modular headquarters unit of approximately 350 Soldiers and light, medium, and heavy tactical trucks. In addition to this headquarters unit, logistics units are attached in accordance with mission requirements. There is no fixed structure for a SUSBDE, but for the purpose of this analysis we have used 3,500 Soldiers, which is the maximum ceiling of logistics Soldiers in support units going to any installation. The primary mission of the unit is to provide a complete range of logistics support supplies and services to combat BCTs and supporting brigades. Often, this support is in the form of fuel, ammunition, parts, food, and contracting services, to highlight just a few of the many logistical requirements of the BCT.

Each of these brigades is supported by different military skill sets such as military intelligence, communications, or explosives ordnance, to name a few. Each of these skill sets are combined in a precise manner within a BCT or support brigade to provide the right skill sets to meet mission requirements.

In addition to these types of brigades, the Army also has training brigades established for the purpose of preparing Soldiers for assignments to operational units. These brigades are found at U.S. Army Training and Doctrine Command (TRADOC) training centers.

1.3.2 Possible Restructure of Brigade Combat Teams

Even as this transformation process is executed, the Army continues to modernize its forces. The Army has identified, through the last 8 years of conflict, that there is a serious capabilities gap in its modular force structure. TRADOC has evaluated BCT capabilities and identified that BCTs without a 3rd Maneuver Battalion conduct less effective wide area security, combined arms maneuver, and peace support operations. The addition of a 3rd Maneuver Battalion to ABCTs and IBCTs has been a key recommendation raised by BCT Commanders returning from Iraq and Afghanistan.

In addition to BCT capabilities gaps, the Army is evaluating the force structure of engineer units. The Brigade Engineer Battalion (BEB) Force Design Update (FDU) is being studied to address engineer capability gaps in BCTs. The FDU was based on a 2009 Army Capabilities Integration Center Organizational Based Assessment, a May 2009 Maneuver Support Center of Excellence War Fighter Symposium, and concurrent work to inform the Army on how to best redesign

engineer force structure. The FDU directly addresses engineer capability gaps in Command & Control, Route Clearance, Assault Gap Crossing, Assault Breach and Horizontal Construction. The BEB would replace the brigade special troops battalion in IBCTs and ABCTs and adds a Battalion Headquarters in the SBCT. The BEB FDU includes an engineer battalion headquarters, an assault gap crossing/breaching capability, limited horizontal construction, and route clearance capability. As part of the Army 2020 proposal, there may be other unit augmentations, such as additional indirect fires units, reconnaissance elements, and other Combat Support unit changes that occur between now and 2020 based on the need to establish the optimum configuration for the BCT.

1.3.3 Global Defense Posture Realignment

GDPR is another transformation process that will continue as the Army reduces its force structure. National security is enhanced in part by forward based capabilities and forces present in theaters overseas that can quickly undertake military actions when called upon to do so. Although the U.S. will retain forward-positioned forces in the Pacific, Europe, Korea, and other locations, more Soldiers and their units will be relocated to Army installations in the U.S. where increased levels of readiness can be attained at reduced operational costs. Where possible, the U.S. will work with security partners and allies to support operations of common interest. This strategy will enable the Army to restructure in a manner that enhances the efficiency and effectiveness of response to emerging threats while reducing funding requirements. The decisions of GDPR will affect some of the future basing decisions made as part of Army 2020 stationing to the extent that some forces will return to the U.S. from overseas basing locations. This analysis is intended to look at the impacts of decisions to return forces to bases located in the U.S., and not at the impacts of force reductions to host nation locations.

There is a focus on a sustainable pace of rotational deployments to places around the world. The Germany-based 170th Infantry Brigade will be inactivated, followed by the 172nd Separate Infantry Brigade, as part of a broad restructuring of the military forces in Europe that also calls for the inactivation of two U.S. Air Force Squadrons, the eventual inactivation of the Army's V Corps, and the closing of Army garrisons. The Army will now plan for a rotational presence of forces in Europe. This will mean, primarily, that forces in the U.S. will deploy for short-term durations to support operations in Europe.

1.4 Scope of the Analysis

This PEA has been prepared in accordance with the National Environmental Policy Act (NEPA), the regulations issued by the Council on Environmental Quality (CEQ), 40 Code of Federal Regulations (CFR) Parts 1500-1508, and the Army's procedures for implementing NEPA, published in 32 CFR Part 651 Environmental Analysis of Army Actions. This PEA addresses the proposed restructuring of Army forces to adjust the composition and current stationing locations of the Army's forces. Implementing Army 2020 includes evaluating stationing actions at locations within the U.S. in accordance with NEPA regulations. This PEA will provide to the decision maker important information regarding potential environmental and socioeconomic impacts associated with the Proposed Action and alternatives. This information will be used to determine whether an Environmental Impact Statement (EIS) is required, and will also assist in later decisions on specific unit changes. The scope of this PEA is broad and encompasses activities to support Army stationing and overarching facilities plans projected to take place from FY 2013 to FY 2020.

The analysis does not address changes at locations outside of the U.S. The Army has determined installations outside the U.S. fell out of the scope of this PEA as not meeting the purpose and need for the Proposed Action. Army forces outside of the U.S. will continue to be

considered for realignment as part of GDPR, but these decisions represent a different set of stationing decisions with separate factors for consideration.

This PEA looks at those Army installations that have the potential to lose 1,000 or more full-time military employees from FY 2013 to FY 2020, or that have the potential to gain 1,000 or more Soldiers through force restructuring. The 1,000-Soldier/civilian threshold was chosen because it represents a level of increase or reduction at a majority of installations that warrants analysis at the programmatic level. It also represents, in the case of a loss, a number that Army planners thought could produce significant economic impacts. This threshold was recently established by Congress in 10 U.S.C. §993 for reporting of planned reductions of members of the Armed Forces at military installations. The information in this PEA will assist the Army in complying with new Congressional notification requirements, when the Army plans to reduce more than 1,000 Soldiers at an installation.

In general terms, a change in Army federal civilian employees is anticipated to occur in conjunction with Soldier reductions. A decrease from 562,000 to 490,000 uniformed Soldiers (approximately a 12.5 percent reduction) would result in some level of reduction in Army government civilian positions across the Army, though there could be variations at different installations.

This PEA assesses the environmental capacity of Army installations to accommodate force realignment options as part of Army 2020 restructuring. This PEA conducts a broad, programmatic analysis to examine the potential environmental and socioeconomic impacts associated with reducing the end strength of the Army while restructuring the force; therefore, this document is intended to inform senior Army Leadership at the Headquarters, Department of Army (HQDA) level. The programmatic approach is designed to allow for early planning, coordination, and flexibility throughout implementation of the Army growth and restructuring process. This PEA is designed to leverage into multi-year analyses that can assist force managers in making stationing decisions. At the site-specific level, additional analysis, if determined necessary and appropriate to support HQDA decisions, would be conducted to address changes and environmental effects of the implementation of stationing.

As the programmatic decision made at HQDA is implemented, follow-on NEPA documentation may be prepared, as appropriate and necessary, to evaluate the environmental impacts likely to result from alternative means of carrying out stationing decisions. Stationing decisions could include changes in number and type of support units, structural changes to units such as adding a combat maneuver or engineering battalion to modular BCTs, or combinations of these actions at a given stationing location. Broad analysis has been conducted as part of this PEA to determine the environmental and socioeconomic areas of concern, as well as general capacity and baseline conditions of proposed installations. The comparison of current training activities and their impacts on current environmental and socioeconomic conditions, with the proposed stationing activities and their impacts, will provide decision makers the appropriate tools and information to effectively execute Army 2020 changes. Information on these elements is presented in the sections that follow.

The reduction in force structure and end strength being analyzed in this PEA is unconnected to past or future Base Realignment and Closure (BRAC) efforts. The need to consider changes to force structure and reduce the Army's end-strength is being driven by national defense strategy, as well as federal budget considerations. The recent DOD request to seek authorization for one or more additional base closure rounds is not addressed in this PEA. BRAC-related closure and realignment recommendations would only occur after Congress authorized a future BRAC round, and would only occur after a long and thorough analysis. At this time, Congress has not authorized any future BRAC rounds and the Army has not analyzed or developed future BRAC

recommendations. In addition, the determinations made in this PEA and the stationing decisions that may follow do not dictate or preclude recommendations that might be made under a future BRAC process. Finally, BRAC includes its own NEPA requirements to which the Army would be subject if its facilities were involved. The realignments considered in this PEA and any future BRAC recommendations are not “connected” actions for purposes of NEPA.

This NEPA analysis examines installations with their current boundaries. It does not consider possible expansion of land holdings at installations. The process of land acquisition for federal agencies is a lengthy one, requiring multiple approvals, a series of environmental and real estate planning studies, specific Congressional authorization, and Congressional appropriations. Because of these uncertainties, there are no installation expansion actions that are included in the scope of this environmental analysis to accommodate any proposed stationing realignment actions. Fort Polk has an expansion action where acquisition of additional land has begun. But even in that case it is not clear how much land will be acquired, and how it will be used; therefore, even at Fort Polk, the analysis is based on current boundaries.

The Army National Guard (National Guard) and U.S. Army Reserve (Army Reserve) are not included in this analysis. The National Guard and Army Reserve are not expected to have any substantial reductions as part of the transformation to Army 2020. Soldiers in these components are generally not serving full time at installations. They serve at a variety of locations, including many installations not included in this PEA because potential losses at those installations would not exceed 1,000 military employees. There are no locations at which changes in National Guard and Army Reserve strength would cause significant environmental or socioeconomic impacts. Therefore, the limited transformation of the National Guard and Army Reserve to Army 2020 was not included in this analysis.

1.5 Public Involvement

As part of the NEPA process, the Army has made this Final PEA and Draft Finding of No Significant Impact (FNSI) available to the public and interested stakeholders. The Notice of Availability (NOA) of the Draft FNSI was published in the *Federal Register*, announced nationally in *USA Today*, and locally by Army public affairs specialists. The public will be given 30 days to comment on this PEA and Draft FNSI prior to the signing of the FNSI. Public comments will be made part of the administrative record and will be considered in the preparation of the Final FNSI.

This PEA is available electronically on the U.S. Army Environmental Command website <http://aec.army.mil/usaec/nepa/topics00.html> for your review. There will be a 30-day waiting period prior to the signing of a Final FNSI. Please direct requests for further information on this PEA/Draft FNSI and comment submissions to Public Comments USAEC, Attn: IMPA-AE (Army 2020 PEA), 2450 Connell Road (Bldg 2264), Fort Sam Houston, Texas 78234-7664.

1.6 Army Decision Making Process

The Army’s decision maker will consider all relevant environmental information and public issues of concern associated with this PEA. In addition to environmental impacts discussed in this PEA, the decision maker will also consider several non-environmental factors critical to a final force structure decision, as discussed below. One such factor will be socioeconomic impacts.

The socioeconomic impacts analyzed in this PEA are of particular concern to the Army. Socioeconomic impacts analyzed within this PEA may approach or exceed significance thresholds. CEQ and Army NEPA regulations, however, do not require preparation of an EIS when the *only* significant impacts are socioeconomic. The CEQ’s regulation states that “economic or social effects are not intended by themselves to require preparation of an

environmental impact statement" [40 CFR 1508.14]. In the same vein, the Army's NEPA regulations do not require preparation of an EIS for realignment or stationing actions where the only significant impacts are socioeconomic, with no significant biophysical impact [32 CFR 651.42(e)]. Absent significant biophysical environmental impacts, the exceedance of significance thresholds for socioeconomic impacts will not require the Army to issue a Notice of Intent to prepare an EIS.

The decision maker will consider both the environmental and socioeconomic impacts analyzed in this PEA, along with all other relevant information, such as public issues of concern rose during the comment period, prior to making a final decision. If the decision maker determines that there are no significant environmental impacts, that decision will be documented in the Final FNSI, which will be signed no earlier than 30 days from the publication of the NOA of this PEA and Draft FNSI in the *Federal Register*. The Army may initiate a Notice of Intent for an EIS if new information warrants the need for additional analysis of potentially significant environmental impacts.

1.6.1 Decisions to be Made

It is important to understand the programmatic nature of both the action alternatives analyzed in this PEA and the stationing decisions to be made by the Army over the next 8 years. This PEA looks at possible losses and gains at 21 installations using the greatest anticipated possible upper and lower population changes. This does not mean that these losses or gains will actually occur. This PEA, for instance, will look at far more Soldier losses than would likely occur at most installations. These scenarios, however, are being evaluated as this PEA is a long-term planning document that must take into account the possibility of future force realignments and reductions over the course of the next 8 years; therefore, a broad range of stationing growth and reduction numbers were utilized to support this analysis and future decision-making, even though the Army does not anticipate the extent of force structure changes described by the alternatives. This PEA process, however, will provide the Army with an understanding as to whether changes within the ranges analyzed in this PEA will cause significant impacts to the human environment.

The Final FNSI is not anticipated to identify the specific installations at which losses and gains will occur. The specific changes in force structure required over the remainder of the decade have not been identified sufficiently at this time to designate installations and units to be affected. The Army does not project that it will be able to make final decisions on its force structure until sometime in 2013. Army force requirements will change over time, and are subject to modification and even reversal as time goes on. Factors producing this uncertainty include world politics and an evolving threat to American interests as well as fluctuating economic conditions.

Army force structure decisions are subject to issues of funding, evolving mission requirements, and other factors that are not fully known at this time. Thus, this PEA process will determine whether either any of the action alternatives will result in significant impacts. The Army will then be able to make decisions on BCT reorganization, with supporting information from this PEA analysis at the appropriate time. This PEA analyzes the potential environmental effects of the entire program of Army 2020 transformation.

Several additional factors will be taken into account in future stationing decisions, in addition to the environmental issues presented in this PEA. These factors include:

- **Operational.** The Army must take full advantage of training resources, deployment infrastructure, and facilities to support readiness and quality of life of Soldiers and their Families. Units must be aligned with appropriate oversight and leadership by senior

headquarters, and command and control. Training land considerations include availability of maneuver land and training facilities, indirect fire (artillery) capability, and range capacity and sustainability, as well as airspace. It also involves deployment infrastructure and the ability to rapidly transport troops and equipment from air and sea port locations.

- **Cost.** The Army must seek to reduce and contain costs, to include military construction investments, systems acquisition, operational costs, and requirements.
- **Strategy and Geographic Distribution.** The Army must align force structure with planning guidance and the DOD priority to focus on the Pacific Region along with other national defense priorities. Army forces must be aligned in such a way as to be able to respond to a broad array of global contingencies, if called upon to do so.
- **Investment and Regeneration.** This factor seeks to preserve options to quickly expand the Army, when and if necessary in the future, to support future national defense needs. In February, 2012, the Army submitted its 2012 annual posture statement to the U.S. Congress. This posture statement presents the Army's strategy for reshaping and reducing its forces while preserving critical operational capabilities. Two critical concepts for Army restructuring are "investment" and "regeneration". Regeneration involves structuring and pacing reductions in such a way that preserves the ability of the Army to regenerate, mobilize, and surge troops for future contingency operation, as needed. Investment involves managing the force in ways to protect the Army's ability to quickly train and generate a larger force in the future by preserving enough of the training force and assets to quickly stand up a larger trained and ready force.
- **Soldier and Family Quality of Life.** Facilities for Soldier and Family well-being, access to medical care schools, and recreation opportunities, and administrative and living facilities are key considerations. Installation stationing locations must have the facilities, or ability to construct new facilities, to support a high quality of life for Soldiers and their Families.

2 DESCRIPTION OF THE PROPOSED ACTION

2.1 Introduction

This section provides a description of the Proposed Action and those supporting actions the Army would undertake to implement force restructuring. The Proposed Action addresses the need to reduce Army end-strength and realign the Army's current force structure to meet national security and defense mission requirements, within budget constraints. To enhance the configuration of its available forces, the Army would engage in four primary activities to ensure that the Proposed Action could meet needs set forth in Chapter 1 of this PEIS. Activities the Army would implement that are anticipated to have an environmental and/or socioeconomic impact at stationing locations, include stationing (unit activation, realignment, and inactivation), garrison construction and demolition, live-fire training, and maneuver training. This section describes the Proposed Action and activities associated with unit stationing actions.

2.2 Proposed Action

The Army's Proposed Action is to reduce and realign its forces; both uniformed military and federal civilian Army employees, in order to meet current and future national security and defense requirements. The reductions and realignments will take place between FY 2012 and FY 2020. As part of the Proposed Action, it is anticipated that the Army's force structure would be reduced to 490,000 active component Soldiers.

The Proposed Action involves the stationing of units in a manner that supports 21st Century Strategic Guidance, the NSS, QDR, NMS, and Army Campaign Plan. The Proposed Action will implement defense guidance and recommendations, sustain unit equipment and training readiness, and preserve a high quality of life for Soldiers and their Families. Army 2020 realignment would allow for the adjustment of the composition of its forces to meet force requirements in high demand military occupational specialties areas while rebalancing the number and types of units in lower priority military occupational skill areas. The implementation of Army 2020 realignment will be necessary to operate on a reduced budget, while allowing the Army to field a smaller force that can meet the mission requirements of the current and future global security environment.

The realignment must modify the force in accordance with Army transformation, sustain unit equipment and training readiness, preserve Soldier and Family quality of life, and reduce operational costs while maintaining critical capabilities. To fully implement the Proposed Action, units must be stationed at locations that will be able to accommodate unit requirements for training, garrison and maintenance activities, and preserve Soldier and Family quality of life. In addition, final stationing locations must support the strategic deployment and mobilization requirements of the Nation's Combatant Commanders to ensure they will have the forces necessary to support regional contingency operations and planning requirements.

2.3 Site Specific Actions Required to Implement the Proposed Action

Alternatives for implementing the Proposed Action will ultimately involve a combination of four specific actions that must be integrated and synchronized by the Army to support the execution of the Proposed Action. These activities are necessary components of the Proposed Action for meeting unit stationing and realignment requirements. The actions are separated out in this section and discussed in detail to facilitate an understanding of the primary activities taking place that are projected to result in impacts to the natural and human environment and lead to direct, indirect, and cumulative effects. Essential activity groups required to implement the Proposed Action are stationing (activations, realignments, and inactivations), garrison

construction and demolition, live-fire training, and maneuver training. A brief description of each activity is provided in the following sections.

2.3.1 Force Management

The primary method by which the Army manages its force structure to ensure that it is fielding an appropriately sized force of proper capability and configuration is through the Army's Total Army Analysis (TAA) process. The TAA is a multi-phased force structure review process that generates the force requirements and recommended resourcing in all three components (Active, Army Reserves, National Guard) necessary to support execution of the National Security and Military strategies, given resource constraints and end-strength guidance and limits from Congress. The TAA results are used to develop the Army's future force requirements. Based on the results of the TAA analysis, the Army routinely activates, inactivates, and realigns units to achieve better command and control, operational effectiveness, and increased efficiencies. TAA decisions in FY 2012 shaped and informed by this analysis will influence future stationing adjustments from FY 2013 to FY 2018. The Army would implement TAA force structure recommendations as part of the Proposed Action.

In January 2011, the Secretary of Defense announced that the Army would move forward with a force reduction of 27,000 Soldiers by 2015. In January 2012, the Secretary of Defense announced that the Army would further reduce its forces to 490,000 active duty Soldiers. To support this announcement and other future anticipated force reductions, the Army will need to inactivate a variety of units and consolidate other units for increased organizational efficiency. The TAA process will be used to conduct an assessment of how to restructure the force.

The Army has made the strategic decision that a majority of force reductions will occur in its operational forces, and not to those generating forces that train Soldiers for future operational requirements. This strategy will enhance the Army's ability to expand rapidly to meet future mission requirements. This strategy influences which installations are being considered in this programmatic analysis (see Section 3.4). This is why installations such as Army Materiel Command depots and arsenals, reserve centers, and major training centers are not part of this analysis. These locations do not have large concentrations of operational units that are the focus of Army realignment and potential reductions.

2.3.2 Garrison Construction & Demolition

The Army has developed a facilities strategy, "Army Facility Strategy 2020", which outlines a broad plan for facilities management to support the Army's transition. Implementation of this strategy is part of the Proposed Action. The strategy provides the Army with an enterprise approach to enhance readiness and lower costs to build the best force for the Army of 2020 with the right facilities configured in the most resource efficient manner. As part of the strategy, the Army would look to maximize the use of existing space, with only limited new construction to support unit activations and realignments. In addition, the Army will consider retention of relocatable facilities (approximately 3,000 in Army inventory) to provide flexibility as force structure reductions are refined. Facilities not in full use or at locations where units are inactivated could be re-purposed, demolished, or out granted to other Services (Navy, Air Force, Marines) or other federal agencies to increase efficiency of facility operations. In addition, under the concept of reversibility, the Army may retain facilities in a 'warm base'⁶ status so that they can be used if force reductions are reversed and new units arrive at the installation. Limited built

⁶ Warmbasing refers to the retention of facilities at a temperature and humidity that allows for maximum preservation, prevents moisture damage, while conserving energy and minimizing costs to retain the facility. In a warm climate, for example, this could mean retaining the facility at 85 degrees Fahrenheit and low humidity, while in a cold climate this would mean retaining the facility at 50 degrees Fahrenheit to reduce energy costs.

out of critical facilities would take place, where necessary, to augment existing facilities to support Army realignment.

The Army proposes to take the following actions as part of the Proposed Action:

- Sustain Required Facilities
- Dispose of Excess Facilities
- Build-out Critical Facility Shortfalls

Critical facilities required by Army units include office space for battalion and company headquarters, barracks space for single enlisted Soldiers, Family housing, dining facilities, maintenance shops, parking for vehicles, storage space, and classrooms. The types of facilities required have been determined by Army facilities planners.

The requirements for construction would be based on the type of unit being stationed at a given location and the availability of existing facilities at the installation. Construction requirements for unit stationing actions would be determined at the installation depending on these factors. As part of Army 2020 reduction implementation, older less efficient facilities may be demolished or renovated and existing facilities may be reassigned to better support Army units. Major military construction (MILCON) would only be anticipated as part of Alternative 2 (see Section 3.2) where BCT restructuring is being considered.

2.3.3 Live-Fire Training

Live-fire training is an essential component of Army training and of the implementation of the Proposed Action. To be operationally effective, Soldiers must have the skills and experience necessary to operate and maintain their weapons. Live-fire involves both munitions and explosives that would be used in combat, as well as non-explosive training rounds designed to meet Soldiers' training needs. In order to conduct effective live-fire training, units must have access to a suite of modern range infrastructure to achieve trained and ready status. A listing of Army Training and Qualification Ranges can be found in TC 25-8 *Training Ranges*. As part of force reduction implementation, there would be expected to be more training range capacity to support fewer Army units competing for training ranges and training lands. As part of Alternative 2, some limited range construction may be needed at certain installations to ensure units have the ability to conduct live-fire training qualifications.

2.3.4 Maneuver Training

Army units must conduct "combined-arms" training to ensure that all of the units' capabilities can be integrated and synchronized to execute missions under stressful operational conditions. Maneuver training consists of collective training of the constituent units of the BCT working together to integrate their combined capabilities and skills. Modular BCTs must conduct and rehearse maneuver training at every echelon from platoon through brigade level to ensure they can accomplish their mission-critical tasks. As part of force reduction implementation, there would be expected to be less overall use of training lands and less training maneuver activity across the Army. As part of Alternative 2, some limited increases in maneuver training associated with additional units and BCT restructuring could occur at some locations that would represent an overall increase from current conditions.

Maneuver training is a critical component of unit training that synchronizes the execution of battle tasks and enables units to shoot, move, and communicate on the battlefield. Large-scale battalion and brigade maneuver training events are often the capstone training exercise that tests and certifies units for operational deployments abroad. Maneuver training builds on all of the individual skills that Soldiers possess and tests each echelon of command of the BCT. Platoons, companies, and battalions conduct maneuvers to ensure unit proficiency at each

successive level of Command within a BCT. Army TC 25-1 *Training Land* is the Army's definitive source for defining maneuver training land requirements. As part of the implementation of the Army's Proposed Action, most installations will experience a decrease in environmental impacts from maneuver training activities.

To support unit training, each platoon, company, battalion, and brigade must conduct maneuver events to ensure the operational capabilities of the BCT. Each platoon and company must train up to 5 weeks per year to meet maneuver training requirements. In addition, each battalion must conduct semi-annual maneuvers lasting approximately 3 to 4 weeks each to certify its subordinate units, and each brigade must conduct maneuvers every 12 to 18 months and in advance of operational deployments. Army Field Manual 7-0 *Training Units and Developing Leaders for Full Spectrum Operations* (DA, 2011) lists the operations that must be rehearsed by Army units in combat maneuver training.

2.3.5 Description of Combat Unit Training

2.3.5.1 Introduction

Training is the Army's number one priority for units, and commanders train their units to be combat ready. "Battle Focus" is a concept used to derive training requirements, and units train according to their Mission Essential Task List (METL). This is derived from wartime operational plans (why they fight); specific (to unit) combat capabilities (how they fight); the operational environment (where they fight); directed missions (what they must do); and any external guidance. The Army trains Soldiers in individual skills, units on collective tasks, and different levels of units through multi-echelon training. The Army trains as it fights, as a combined arms team. Training ranges and training lands allow Army units to fire weapons, maneuver as a combined arms team, and incorporate protective measures against enemy actions.

All Soldiers qualify with their individual weapon (rifle or pistol) at least twice annually; crew-served weapons qualification varies by type of unit. This training is usually accomplished at the company level on fixed ranges described in TC 25-8 *Training Ranges*. Weapons system training (Abrams Tank, Bradley Fighting Vehicle, and Attack Helicopter) consists of a series of "tables" and occurs on large range complexes.

All units must establish logistical and command and control operations in the installation's maneuver areas. From those maneuver area locations the units will train on their mission essential tasks. The size of the area, and frequency and duration of the training exercises will vary by type of unit.

Units train to maintain proficiency on key tasks as defined by their METL. Training strategies and events for Army BCTs are described in more detail below.

- **Armored Brigade Combat Team.**

Equipment. The ABCT currently consists of approximately 3,800 Soldiers and 55 M1 Abrams tanks and 85 Bradley Infantry fighting vehicles. In addition to these armored tracked combat vehicles, the ABCT also possesses 16 self-propelled 155mm howitzers, tracked earthmoving vehicles, recovery vehicles, and an assortment of other tracked vehicles. The ABCT also has a large number and variety of wheeled-vehicles, to include light tactical trucks, medium trucks, and large cargo and fuel trucks. All vehicles are capable of on-road and off-road maneuver.

Training. Abrams Tank or Bradley Fighting Vehicle crews in the combined arms battalion practice and qualify on their vehicles on a series of 4 individual gunnery "tables" once every 6 months, and as sections and platoons once every 12 months. A company will complete a Combined Arms Live-Fire Exercise (CALFEX) once every 12 months on

its own or as part of a battalion CALFEX. This training also occurs on large fixed ranges such as the Multi-Purpose Training Range (MPTR) or Multi-Purpose Range Complex (MPRC) that have multiple lanes for mounted maneuver and live-fire target engagements.

The ABCT's smaller subordinate units will train on a specific event as many as 4 times per 12 months; the larger units may train as many as 2 times per 12 months.

- **Stryker Brigade Combat Team.**

Equipment. A SBCT currently consists of approximately 4,200 Soldiers, 317 Stryker combat vehicles, 588 wheeled support vehicles, 18 155mm howitzers, and numerous trailers and other pieces of equipment. The Stryker vehicle is an eight-wheeled armored combat vehicle. Each Stryker platform is equipped with a crew served weapon, usually a machine gun, or in the case of the mobile gun system (MGS), a direct fire cannon.

Training. Stryker unit training involves a mixture of mounted and dismounted tasks. Stryker units, from squad to company also participate in quarterly and semi-annual Live-Fire Exercises (LFXs) that includes all weapons systems on a large and more complex range. Stryker units will train on a specific event as many 4 times per 12 months, the larger units (e.g., battalion and BCT) as many as 2 times per 12 months. Stryker units train to move rapidly over larger operational distances in order to bring infantry forces and their equipment to an objective. Stryker vehicles can move cross-country, but are more likely to move on hardened surfaces for speed and mobility purposes.

- **Infantry Brigade Combat Team.**

Equipment. The modular IBCT consists of approximately 3,450 Soldiers and possesses towed M777 155mm artillery, light engineer equipment, and light tactical and medium and large cargo trucks. All vehicles are capable of on-road and off-road maneuver.

Training. Infantry training is weapons intensive as individual Soldiers, crews, teams, and squads practice and qualify with a variety of weapons. Weapons qualification is a semi-annual requirement, practice firing is completed as time, ammunition, and other resources permit. Infantry units, from squad to company also participate in quarterly and semi-annual LFXs that include all weapons systems on a large and more complex range.

Infantry units can incorporate airborne, airmobile and air assault operations into their training. Like the ABCT, the IBCT's smaller subordinate units will train on a specific event as many 4 times per 12 months, the larger units such as the battalion may train as many as 2 times per 12 months.

- **Combat Support and Combat Service Support Units.**

Equipment. Combat Support and Combat Service Support units consist of units with a variable number of Soldiers, depending on unit type, that support a wide array of functions in the Army. Combat Support and Combat Service Support units consist of military police, engineers, logistics support, medical units and other types of units supporting combat and non-combat functions. These units use a wide variety of vehicles, based in part of the types of units it is supporting and the missions it needs to accomplish. Vehicles used by these units may consist of maintenance vehicles, and light, medium, and heavy cargo trucks of all sizes (e.g., 5,000 gallon fuel trucks and Heavy Equipment Transports [HETs]). Vehicles used by Combat Support and Combat Service Support units are generally capable of on-road and off-road maneuver, but will more often travel on-road.

1 **Training.** Combat Support and Combat Service Support units will often establish an
2 operating base in the maneuver areas and train on force protection and conducting
3 combat support and logistical operations in this environment. The training can include
4 repairing vehicles, providing medical treatment, conducting security operations,
5 rehearsing engineering tasks, re-supplying units with petroleum products, rations, and
6 other materials. The operating bases can be large and there is considerable vehicle
7 traffic in and around the base. Like combat units, Combat Support and Combat Service
8 Support units must conduct individual qualification on training ranges to qualify on
9 individual and crew served weapons systems.

3 ALTERNATIVES AND SCREENING CRITERIA

3.1 Introduction

This section discusses the alternatives the Army is considering to implement the Proposed Action. The Purpose and Need described in Chapter 1 provides the context in which to analyze the viability of alternatives. The Purpose and Need define necessary elements of the Proposed Action and allow consideration of alternatives for realignment and restructuring of Army's forces. This section provides a discussion of the alternative selection criteria that the Army used to assess whether an alternative is "reasonable" and carried forward for evaluation in this PEA. The screening criteria were developed based on the Purpose and Need for the Proposed Action set forth in Chapter 1. In addition, this section will discuss criteria used to select candidate installations for stationing actions to support the realignment of the force.

Two Army-wide action alternatives and the "No Action" Alternative have been analyzed for implementation at 21 installation stationing locations.

3.2 Alternatives Carried Forward for Analysis

In addition to the No Action Alternative, two action alternatives have been formulated that take into account the Army's needs for Army 2020 realignment. Common elements to these alternatives include implementing force reductions and Combat Support and Combat Service Support unit realignments from FY 2013 to FY 2020. Both alternatives consider Grow the Army stationing actions that have occurred from FY 2008 to FY 2012 as part of the baseline condition for stationing analysis.

3.2.1 Alternative 1 - Implement Force Reductions: Inactivate Brigade Combat Teams and Realign Combat Support and Service Support Units Between Fiscal Year 2013 and Fiscal Year 2020

Under Alternative 1, the Army would eliminate a minimum of eight BCTs, as well as other Combat Support and Combat Service Support units. Installations would experience force reductions through unit in activations and unit realignments that could also include the relocating of units to other locations. Additionally, the Army would reduce its federal civilian workforce in parallel with a reduced demand for Soldier support services. The structure of BCTs would not change as part of this alternative. Some portion of civilian reductions would be directly associated with Soldier losses, though a majority of civilian reductions would be associated with overall realignment of the workforce across the Army being conducted in order to achieve greater operational efficiencies. Table 3.2-1 presents the potential military employee reductions that could take place as part of Alternative 1 at each installation. These reductions are used as the maximum potential force reduction thresholds for the installations. This PEA looks at the maximum possible thresholds for reductions at its installations that could result in an Army strength considerably below 490,000. Currently, the Army does not envision reducing its forces below this level; therefore, the full extent of the reductions discussed are not anticipated.

Table 3.2-1. Alternative 1: Army 2020 Force Reduction and Combat Support/Combat Service Support Realignment

Installation Name	Potential Population Loss to be Analyzed	Fiscal Year 2011 Army Population ¹	Projected Fiscal Year 2020 Army Population
Fort Benning, Georgia	7,100	39,243	32,143
Fort Knox, Kentucky	3,800	13,665	9,865
Fort Polk, Louisiana	5,300	10,877	5,577
Fort Wainwright, Alaska	4,900	7,430	2,530
Joint Base Elmendorf-Richardson, Alaska	4,300	6,923	2,623
Fort Bliss, Texas	8,000	32,352	24,352
Fort Bragg, North Carolina	8,000	56,983	48,983
Fort Campbell, Kentucky	8,000	32,425	24,425
Fort Carson, Colorado	8,000	25,823	17,823
Fort Drum, New York	8,000	19,079	11,079
Fort Hood, Texas	8,000	47,437	39,437
Fort Riley, Kansas	8,000	20,009	12,009
Fort Stewart, Georgia	8,000	24,622	16,622
Joint Base Lewis-McChord, Washington	8,000	36,777	28,777
Schofield Barracks, Hawai'i	8,000	18,563	10,563
Fort Gordon, Georgia*	4,300	13,864	9,564
Fort Lee, Virginia*	2,400	16,257	13,857
Fort Leonard Wood, Missouri*	3,900	27,213	23,313
Fort Sill, Oklahoma*	4,700	22,444	17,744
Joint Base Langley-Eustis, Virginia*	2,700	9,899	7,199
Fort Irwin, California*	2,400	5,539	3,139

* Non-BCT installation

¹Populations include: Army military, Army students, Army civilians (Excludes other military service personnel, contractors, and transients); Population reduction numbers include full-time military and civilian projections only. Source of data is the Army Stationing Installation Plan (Feb, 2012).

For each installation with one BCT, Alternative 1 assumes the loss of that BCT (approximately 3,450 for IBCTs, 3,850 for ABCTs, and 4,200 for SBCTs), as well as 30 percent of the installation's non-BCT Soldiers and 15 percent of the civilian workforce. In some instances involving installations with major training missions, the potential loss is lowered slightly. This is because personnel associated with the training mission, referred to as the "generating force," are not expected to decline (see Section 2.1).

For installations with multiple BCTs, Alternative 1 assumes the loss of a BCT, 30 percent of the installation's non-BCT Soldiers, and 15 percent of the civilian workforce. In order to

1 approximate the maximum likely loss, a total of 8,000 military employees were used for these
2 installations. Application of the formula above could produce a higher figure, but it would be
3 unlikely that any one installation would be selected to sustain a force reduction of more than
4 8,000 military employees.

5 For an installation with no BCTs, Alternative 1 assumes a loss of 35 percent of the installation's
6 Soldiers, as well as a loss of up to 15 percent of civilian employees. Analysis of Alternative 1
7 includes these installations; if the total losses would exceed 1,000 military employees. Other
8 non-BCT installations could experience reductions as part of Army 2020 realignment, but these
9 reductions would not exceed 1,000 military employees. These smaller reductions are outside
10 the scope of this programmatic document and, therefore, are not included in this PEA.

11 Installations with major training missions would also experience about a 10 percent reduction in
12 Soldiers attending temporary training. These Soldiers are not included in the calculations of
13 losses because of the limited nature of their impacts on communities, community services, and
14 the environment. Most Soldiers attending temporary training are unaccompanied by Family
15 members and do not reside in, or draw services from, the community. Reductions in permanent
16 party Soldiers and Army civilians would be anticipated to affect an estimated 1.52 dependent
17 Family members (children up to the age of 18, and spouses) per service member or civilian.
18 Additional discussion of socioeconomic impacts and methodologies is provided in Section 4.0.

19 These numbers serve as the upper-bound loss estimate for both Active Component Soldiers
20 and Army civilian employees. It is important to understand that these scenarios represent the
21 maximum potential reduction at these installations and are not currently being proposed by the
22 Army as immediate decisions being made as part of this PEA. Rather, the Army will continue to
23 review and determine how best to structure its forces through the TAA process within the FY
24 2013 to FY 2020 timeframe, and make decisions to best meet the Army's needs. These
25 decisions will fall within the range of stationing changes evaluated in this PEA.

26 Force realignment outcomes will be inherently tied to future budget decisions and future national
27 defense requirements. It is also important to remember that the transformation would occur
28 over a number of years and that it would be subject to change during that period because of
29 external events.

30 **3.2.2 Alternative 2 – Implement Alternative 1: Inactivate Additional Brigade** 31 **Combat Teams and Restructure Brigade Combat Teams to include adding** 32 **a 3rd Combat Maneuver Battalion**

33 Under Alternative 2, the Army would implement force reductions and realignments discussed as
34 a result of implementation of Alternative 1. In addition, the Army would reduce further the total
35 number of BCTs to provide the additional troops that would be added to the remaining BCT
36 force structure. The implementation of Alternative 2 would result in the inactivation of more
37 BCTs across the Army. The exact number of inactivations would depend on the final force
38 structure designs, number of Soldiers added to each BCT, and number of BCTs that would
39 eventually implement the new force structure design concept. The Army also would restructure
40 BCTs by taking combat maneuver battalions of inactivating ABCTs and IBCTs and adding them
41 to existing ABCTs and IBCTs either at the same location or at other installations. Each
42 realigned combat maneuver battalion would add approximately 700 additional Soldiers per BCT.
43 This alternative would provide those Brigade Commanders with a 3rd combat maneuver
44 battalion to support their operations and enhance the combat power of each BCT. The addition
45 of a combat maneuver battalion to the SBCT is not being considered, since the SBCT, already
46 has three combat maneuver battalions. As part of this alternative, the Army would also
47 restructure its engineering units to add a BEB to each ABCT, IBCT, and SBCT, which would
48 add several hundred more Soldiers to the BCT. There may be other augmentations, such as

additional indirect fire units, reconnaissance elements, and other Combat Support unit changes between now and 2020, based on the need to establish the optimum configuration for the BCT and its supporting elements. For planning purposes, and for purposes of analysis in this document, it is assumed that 1,000 Soldiers would be added to ABCTs and IBCTs and 500 Soldiers would be added to SBCTs. The actual numbers may vary slightly as the force structure analysis continues. The numbers used in this PEA reflect the upper range of possible changes.

As a result of the implementation of Alternative 2, all installations could experience force reductions discussed as part of Alternative 1 in addition to growth from BCT consolidations. Under Alternative 2, changes could include further Soldier and Army civilian reductions, and changes in the numbers of dependents associated with these Soldiers leaving the surrounding community⁷. Dependents of civilian employees may be more likely to stay in the local geographic area. There would also be changes in the temporary student training population at installations. In many cases, these changes would offset any growth of BCT consolidation. Some BCT installations, however, could experience a marginal overall increase in permanent party population as a result of the implementation of Alternative 2. Table 3.2.2 provides an overview of the maximum increase of potential Soldier population gain that would be anticipated to occur to BCT installations as a result of the implementation of Alternative 2.

Table 3.2-2. Installation Gains Resulting from Implementation of Alternative 2

Installation Name	Potential Population Gain to be Analyzed	Fiscal Year 2011 Army Population ¹	Projected Fiscal Year 2020 Army Population
Fort Knox, Kentucky	1,000	13,665	14,665
Fort Polk, Louisiana	1,000	10,877	11,877
Fort Wainwright, Alaska*	1,000	7,430	8,430
Joint Base Elmendorf-Richardson, Alaska	1,000	6,923	7,923
Fort Bliss, Texas	3,000	32,352	35,352
Fort Campbell, Kentucky	3,000	32,425	35,425
Fort Carson, Colorado	3,000	25,823	28,823
Fort Drum, New York	3,000	19,079	22,079
Fort Hood, Texas	3,000	47,437	50,437
Fort Riley, Kansas	3,000	20,009	23,009
Fort Stewart, Georgia	3,000	24,622	27,622
Schofield Barracks, Hawai'i*	1,500	18,563	20,063

*Stryker Brigade Combat Team Stationing Site

¹Populations include: Army military, Army students, Army civilians (Excludes other military service personnel, contractors, and transients); Population reduction numbers include full-time military and civilian projections only; Source of data is the Army Stationing Installation Plan (Feb, 2012).

⁷ The surrounding community is later referred to as the installation region of influence.

The numbers included in Table 3.2-2 assume that ABCTs and IBCTs stationed at Army installations could receive an extra combat maneuver battalion consisting of approximately 700 additional Soldiers. These numbers account for the BEB and other units such as additional indirect fires units, reconnaissance elements, and other critical Combat Support units. The addition of 1,000 Soldiers was determined to be reasonable for locations with a single BCT (500 for the installations with a single SBCT), and 3,000 Soldiers additional authorizations for locations with multiple BCTs. There would be no locations in Alternative 2 that would not experience some level of loss through unit inactivation or realignment; therefore, growth to the levels reflected in Table 3.2-2 is unlikely at most locations. For locations without BCTs, no increase in Soldier population would occur as part of this alternative, so they are not further analyzed as part of this alternative.

BCT restructuring scenarios represent the maximum ceiling of troop increase. No decisions on BCT restructuring have yet been made. The Army will continue to review and determine how best to structure its forces through the TAA process within the FY 2013 to FY 2020 timeframe, and make decisions to best meet the Army's needs. These recommendations will fall within the range of stationing changes evaluated in this PEA. It is important to note that as a result of implementation of Alternative 2, there would still be an overall reduction in Army strength. The gains coming as a result of BCT restructuring would be offset by losses either at the BCT's installations or elsewhere.

Schofield Barracks has a reduced potential for Soldier increases compared to other locations with multiple BCTs; therefore, a reduced number for Soldier growth was considered. At Fort Wainwright (also a SBCT installation), a potential growth of 1,000 Soldiers was used instead of 500 Soldiers because the installation may need to accommodate the stationing of additional Combat Support Units in the future, depending on Army-wide force structure decisions.

Fort Benning, Fort Bragg, and Joint Base Lewis-McChord (JBLM) were not considered under Alternative 2 because of a lack of capacity and facilities to accommodate additional Soldiers in a cost effective manner. Further discussion of these installations and screening criteria is presented in Section 3.4.2.3.

3.2.3 No Action Alternative

The No Action Alternative would retain the Army at a FY 2012 end-strength of about 562,000 Active Duty Soldiers, 358,200 National Guard Soldiers, 205,000 Army Reserve Soldiers, and more than 320,000 DA civilians, as is currently authorized. The No Action Alternative assumes that units will remain stationed where they are currently stationed at the end of FY 2012. Under the No Action Alternative, no additional Army personnel would be realigned or released from the Army to balance the composition of Army skill sets to match current and projected future mission requirements, or to address budget requirements. No BCT restructuring would occur as proposed in Alternative 2, and no unit inactivations would occur. Implementation of the No Action Alternative will not address the Army's needs for force realignment and reduction. The No Action Alternative provides baseline conditions and a benchmark against which to compare environmental impacts from the Proposed Action alternatives. Consideration of the No Action Alternative is also required by CEQ regulations.

3.3 Alternatives Eliminated from Further Review

- **Permanently Station Brigades at Overseas Host Nation Locations.** Under the No Action Alternative, existing brigades or their constituent units would be stationed at overseas locations, such as Germany or Korea. This alternative would not adhere to national defense policy or decisions and recommendations put forward in the QDR. These QDR outlines DoD strategies to project power abroad from within the U.S. where

Soldiers have increased levels of force protection and access to training resources. Overseas locations could also be more costly and this would impede the Army's effort to meet budget constraints.

- **Execute Brigade Combat Team Restructuring (Alternative 2) at Non-Brigade Combat Team Locations.** Under this alternative, the Army would station existing BCTs at installations that do not currently have one. This alternative would not be cost-effective to implement, as locations which do not currently have a BCT would require a new set of facilities for the unit. Construction of an entirely new set of facilities and infrastructure to support a BCT and their dependents would not meet the purpose and need for the proposed action to realign Army units in a cost effective manner.
- **Station Brigade Combat Team's 3rd Maneuver Battalions at a Reserve Component Sites.** Under this alternative, units would be stationed at a Reserve Component Site such as Camp Shelby, Mississippi or Fort Dix, New Jersey. While these installations do possess some of the range infrastructure required to support an Active Duty battalion, the installations' primary mission is to focus on training National Guard and Reserve Component Soldiers on Mission Critical Tasks to prepare them for deployment to support on-going missions. These installations do not possess the garrison infrastructure to support an Active Duty BCT and the infrastructure and services required by their dependents.
- **Apply a Fixed Percentage Reduction to all Installations.** Under this alternative, all Army installations would be reduced by a percentage necessary to meet the overall 490,000 end strength goal. The Army's critical capabilities and priorities to meet the future strategic mission requirements would be placed at risk, because key units would not be preferentially preserved. The use of strategic locations would not be maximized and, therefore, would not reflect strategic priorities.
- **Further Reduce Troop Levels Overseas.** Under this alternative, force structure would be further reduced overseas as opposed to reductions occurring at installations within the U.S. To a large extent, this alternative is in the process of being implemented, already. In January, 2012, the U.S. Army announced major force reductions in Europe and other overseas locations that will occur by 2015. Further reductions are, therefore, not being considered as a viable alternative for the realignment of Army forces as it would preclude the ability of U.S. forces to meet critical overseas mission requirements.

3.4 Screening and Evaluation Criteria Used to Identify a Range of Potential Installation Stationing Locations

The Army used elements of the need for action defined in Chapter 1, in conjunction with other external limiting factors, to narrow the field of installations to those capable of supporting the Proposed Action.

3.4.1 Alternative 1 Screening Criteria

All installations of every size were initially considered. Installation locations carried forward for analysis in this PEA for Alternative 1 are installations that have the potential to lose more than 1,000 Soldiers and Army civilians as part of force reductions from FY 2013 to FY 2020. These installations also must be ones with units in the operational Army that could produce the reductions that are needed to meet the end strength requirements. Installations with fewer operational Army forces do not have the potential for large reductions and were excluded from the analysis. For example, Fort Sam Houston, Texas, (part of Joint Base San Antonio) has 5,904 active Army Soldiers but was not included because this installation is part of a major Army medical center whose mission will be expected to continue. The installation also has a major medical training mission that supports the Army's generating force for the U.S. Army Medical

Command that is not expected to be reduced. It also does not have the operational Army units with large numbers that would meet the threshold for inclusion in this programmatic analysis. Fort Meade, Maryland, has 4,401 Active Duty Soldiers; however, the mission at Fort Meade is the “Center of Excellence in Information, Intelligence, and Cyber”. It is also the home of the Defense Adjudication Activities, the Defense Information Systems Agency, and the Defense Media Activity. It does not include major operational Army units and, therefore, does not meet the threshold for inclusion in this document. As a final example, Fort Huachuca, Arizona, has 3,004 Active Duty Soldiers; it is the home of the Army’s Intelligence Center and School, and, therefore, has many Soldiers in the generating force. It also does not have the operational Army units and the potential for a reduction of 1,000 military personnel that would meet the threshold for inclusion in this analysis.

All installations where a BCT is currently stationed were carried forward for consideration under Alternative 1. These are:

- Fort Benning, Georgia
- Fort Knox, Kentucky
- Fort Polk, Louisiana
- Fort Wainwright, Alaska
- Joint Base Elmendorf-Richardson, Alaska
- Joint Base Lewis-McChord, Washington
- Fort Bliss, Texas
- Fort Bragg, North Carolina
- Fort Campbell, Kentucky
- Fort Carson, Colorado
- Fort Drum, New York
- Fort Hood, Texas
- Fort Riley, Kansas
- Fort Stewart, Georgia
- Schofield Barracks, Hawai’i

Additionally, installations that support major training schools or Combat Training Centers and have the potential to lose 1,000 or more military employees are carried forward for analysis and include:

- Fort Gordon, Georgia
- Fort Lee, Virginia
- Fort Leonard Wood, Missouri
- Fort Sill, Oklahoma
- Joint Base Langley-Eustis, Virginia
- Fort Irwin, California

It is important to note that nearly all installations will be affected by some force reduction, though not at the population size or unit type to warrant their consideration at the programmatic level.

3.4.2 Alternative 2 Screening Criteria

For Alternative 2, the screening and evaluation criteria are: being a current BCT stationing location; possessing the capability to provide the necessary training for new units and the ability

to provide garrison support infrastructure; and supporting Army cost reductions. These screening criteria were applied to the full range of reasonable potential stationing locations capable of supporting Army 2020.

3.4.2.1 Current BCT Stationing Locations

These installation locations are:

- Fort Benning, Georgia
- Fort Knox, Kentucky
- Fort Polk, Louisiana
- Fort Wainwright, Alaska
- Joint Base Elmendorf-Richardson, Alaska
- Joint Base Lewis McChord, Washington
- Fort Bliss, Texas
- Fort Bragg, North Carolina
- Fort Campbell, Kentucky
- Fort Carson, Colorado
- Fort Drum, New York
- Fort Hood, Texas
- Fort Riley, Kansas
- Fort Stewart, Georgia
- Schofield Barracks, Hawai'i

3.4.2.2 Training Capacity

The installation's current training facilities and maneuver acreage are considered as part of this screening criterion. This includes possessing sufficient land for training and maneuver areas for realigned units, and sufficient live-fire and qualification ranges to support unit live-fire training. None of the installations were eliminated as a result of this screening criteria and all of the installations listed in Section 3.4.2.1 could support training of additional units (i.e., Alternative 2).

3.4.2.3 Garrison Support Facilities Availability and Ability to Support Expenditure Reductions

The current capability of the installation to support Soldiers, Families, and civilians (e.g., Soldier and Family housing, offices, barracks, classrooms, medical clinics, child and youth development centers, and school systems) was considered. The presence of adequate available infrastructure to support Soldiers and their Families as part of Army BCT restructuring was considered, along with the ability of the installation to support expenditure reductions. Installations at which changes are considerably more expensive to implement would be eliminated from detailed evaluation. Installations considered for stationing realignments must have a majority of the existing facilities needed to support new units, or the buildable space for them. If installations do not have sufficient facilities or buildable space, they were not carried forward for analysis as part of Alternative 2.

Fort Bragg and JBLM do not have additional or excess garrison support facilities or buildable space to accommodate additional units, though their BCTs could restructure without experiencing net growth at the installation. This is because BCT gains would be offset by inactivation of other units. Because there would not be a situation where Fort Bragg or JBLM

would see a net increase in Soldiers overall, even with BCT restructuring, they were not carried forward for analysis as part of Alternative 2.

Fort Benning is also not being carried forward for analysis as part of Alternative 2. While restructuring of the Fort Benning BCT could occur, there would not be a situation where Fort Benning would see a net increase in Soldiers overall; therefore, Fort Benning is not being carried forward for analysis as part of Alternative 2. Fort Benning does not have sufficient unrestricted maneuver land to support the training needs of additional maneuver units.

The installations below were carried forward for consideration as part of Alternative 2:

- Fort Knox, Kentucky
- Fort Polk, Louisiana
- Fort Wainwright, Alaska
- Joint Base Elmendorf-Richardson, Alaska
- Fort Bliss, Texas
- Fort Campbell, Kentucky
- Fort Carson, Colorado
- Fort Drum, New York
- Fort Hood, Texas
- Fort Riley, Kansas
- Fort Stewart, Georgia
- Schofield Barracks, Hawai'i

3.5 Restructuring/Realignment Considerations

It is important to remember that under either action alternative, the overall end-strength of the Army will decline by the same amount. Increases at an installation under Alternative 2, in many cases, would likely be offset by losses identified in Alternative 1. It is also important to remember that the transformation would occur over a number of years and that it would be subject to change during that period because of external events.

Soldiers whose units would be inactivated under this process would not be immediately released from the Army. They would be re-assigned to other units or to schools. Eventually, they would leave the Army after their enlistments ended, upon retirement, or through other regularly-occurring events. In addition, the Army would control its size through reduced accessions and re-enlistments. For civilian reductions, the Army anticipates managing a majority of its workforce reduction through scheduled and incentivized retirements and cessation and reduced pace of new hiring actions, though some additional measures, such as Reductions in Force, may be needed to match budget authorizations with workforce size.

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4 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

4.0.1 Introduction

This section presents a consolidated discussion of the affected environment (baseline environmental conditions) at each installation, and the environmental and socioeconomic impacts anticipated as a result of the implementation of the alternatives. The baseline for the Proposed Action is considered the installation's current condition in 2012, to include the implementation of HQDA stationing decisions that have been made, but not yet implemented.

This PEA provides decision makers, regulatory agencies, and the public with information on the environmental and socioeconomic impacts that could result from the implementation of Army 2020 force structure realignments. This information will allow decision makers to review the environmental and socioeconomic impacts of the alternatives and select one. It will also enable the Army to make informed decisions in coming years as they reshape the structure of Army forces to meet future national security requirements. As they do so, they will determine whether future actions are sufficiently covered by this EA and whether supplementation is necessary.

4.0.2 Valued Environmental Component Impact Ratings

This PEA adopts an analytic methodology similar to that used in the Army's *Programmatic Environmental Impact Statement for Army Transformation* (March 2002) and the *Programmatic Environmental Impact Statement for Army Growth and Force Structure Realignment* (October, 2007). The Army utilized the process in the Army's *NEPA Analysis Guidance Manual* (2007) for evaluating impacts to each environmental media area or valued environmental component (VEC) for each of the 21 installations and their associated maneuver sites. A general description of these VECs is provided in Section 4.0.4 of this section. Through coordination with installation staff and subject matter experts at each location, VEC ratings were identified and verified, and are described in this section. VEC ratings are the basis for determining whether the impact is significant or not. VEC ratings range from beneficial to significant:

- **Beneficial** – A positive net impact.
- **No Impact/Negligible** – An environmental impact that could occur, but would be less than minor and might not be perceptible.
- **Minor** – While impacts would be perceptible, they would clearly not be significant.
- **Less than Significant** – An impact that is not significant, but is readily apparent. Additional care in following standard procedures, or applying precautionary measures to minimize adverse impacts, may be called for.
- **Significant but Mitigable** – A significant impact anticipated, but the Army can put management actions or other mitigation measures in place to reduce impacts to less than significant.
- **Significant** – An adverse environmental impact, which, given the context and intensity, violates or exceeds regulatory or policy standards or otherwise exceeds the identified threshold. The significant impact, however, cannot be mitigated with practical means to a level below significance.

A summary of environmental impacts is provided in Section 4.22 and presented in consolidated tables of anticipated impacts in Tables 4.22-1 (No Action Alternative), 4.22-2 (Alternative 1), and 4.22-3 (Alternative 2). Each installation sub-section also includes a table of anticipated impacts.

Additional installation site-specific analyses will be conducted, if required, to address actions necessary to implement Army 2020 force structure realignment decisions. This is appropriate given the extended duration and numerous decisions that this PEA is designed to support. Implementation of some of these decisions may require site-specific follow-on NEPA analysis to evaluate local siting considerations and other environmental issues.

4.0.3 Valued Environmental Components and Thresholds of Significance

The Army uses a standardized methodology to complete NEPA analysis that is outlined in the *Army's NEPA Guidance Manual* (2007). The discussion that follows provides an overview description of each VEC evaluated in this document and provides a discussion of thresholds of significance.

To maintain consistent evaluation of impacts in this PEA, thresholds of significance were established for each resource area. The Army developed these thresholds to take into account substantive environmental regulations and ensure an objective analysis of anticipated impacts. Although some thresholds have been so designated based on legal or regulatory limits or requirements, others reflect some discretionary judgment on the part of the Army. Quantitative and qualitative analyses have been used, if appropriate, in determining whether, and the extent to which, a threshold is exceeded.

It must be remembered, however, that significance is a matter of context and intensity. Loss of a small number of trees in an arid area with few trees could be significant while loss of the same number of trees in a forested area might not. Any variation in the significance criteria is set out in the discussion of impacts for specific locations.

An impact may trigger one of these thresholds, but mitigation could reduce the impact to less-than-significant. Also, note that regions of influence (ROI) may vary at installations because of specific circumstances. In addition, the context of the affected environment at a given installation may mean that a site-unique threshold is applicable.

4.0.4 Valued Environmental Component Descriptions

Air Quality

Air resources are affected by gases and particulates from stationary and mobile sources and are influenced by meteorological conditions such as prevailing wind, sunlight, and temperature inversions. The Clean Air Act (CAA), the primary federal statute regulating air emissions, applies fully to the Army and all its activities.

Depending on the installation's location and whether or not it is considered a "major source" of air pollutants, the CAA may require permitting before construction, demolition, or stationing commences. The specific requirements will depend on whether the installation is located in a "nonattainment" or "maintenance" area.⁸ If the installation is located in an "attainment" or "unclassifiable" area, it may have to assess the project's contribution to the local air shed to ensure Prevention of Significant Deterioration (PSD). The PSD regulations provide special protection from air quality impacts for certain areas, primarily National Parks and Wilderness Areas that have been designated as "Class I" areas. These are areas where air quality (especially visibility and acid deposition) has been given special emphasis.

Conformity. The CAA (Section 176(c)) prohibits federal activities from taking various actions in nonattainment or maintenance areas unless they first demonstrate conformance with the applicable State Implementation Plan (SIP). Regardless of compliance with other environmental regulations, failure to satisfy the requirements of the conformity rule can, by itself,

⁸ This status is based on six criteria air pollutants for which there are National Ambient Air Quality Standards (NAAQS).

preclude an installation from moving forward with the project. A conformity review is a multi-step process used to determine and document whether a Proposed Action meets the conformity rule. The conformity review would require the installation to:

- Evaluate the nature of the Proposed Action and associated air pollutant emissions;
- Determine whether the action is exempted by the rule;
- Calculate air pollutant emissions and impacts associated with the Proposed Action;
- Mitigate emissions if regulatory thresholds are exceeded;
- Prepare formal documentation of the findings; and
- Publish findings to the public and regulatory community.

Some Army installations are located in non-attainment areas or maintenance areas. At these locations, air conformity reviews would be conducted, if deemed appropriate. This analysis cannot be done until the number of Soldiers and civilians, equipment, facilities requirements, and stationing dates are known. At many installations, formal conformity determinations will not be required because the action will be exempt or *de minimis*.

Prevention of Significant Deterioration. Installations that are classified as “major sources,” and/or located in areas classified as “attainment” or “unclassifiable” must obtain approval to construct a new emissions source or to modify existing emissions sources if the modification project would result in a significant emission increase. It should be noted that “project” includes operational changes that affect emissions, not only equipment construction or modification. The purpose of the PSD program is to prevent areas that meet the CAA standards from becoming nonattainment areas. A PSD Permit must be obtained in order to:

- Construct a new major stationary source of criteria pollutants, or
- Modify an existing major stationary source such that emissions from the source would increase significantly. (The significance thresholds vary from 0.0004 to 100 tons per year (tpy) depending on the pollutant).

New Source Review. The Nonattainment New Source Review (NNSR) Permit Program (also known as Nonattainment Area New Source Review (NSR) or Major NSR) applies in nonattainment areas only. Its purpose is to ensure that emissions in these areas are not increased and preferably decreased as a result of new construction or modification projects. This program applies to operational changes as well as equipment changes. It is important to emphasize that NNSR only applies to the pollutants for which the area is in nonattainment.

A NNSR permit must be obtained in order to:

- Construct a new major stationary source of criteria pollutants, or
- Modify an existing major source such that emissions from the source would increase significantly.

Minor Source Pre-Construction Permitting. To be sure all emissions sources are reviewed with respect to CAA regulations and to prevent source owners from deliberately incrementing their emission increases to avoid PSD/NNSR, the U.S. Environmental Protection Agency (EPA) and the states developed Minor NSRs. This program has many different names - Notice of Construction, Approval to Operate, Permit to Operate, etc. Each regulatory agency develops regulations for a pre-construction permit program. Typically, the regulations will include a list of exempt sources such as temporary sources to be on-site less than 90 days (this often includes construction equipment), small boilers or furnaces (residential size), and ventilation systems. This list may have 100 exempt source types. Most regulators also exempt sources that have a potential to emit below a specific threshold. These thresholds should not be confused with any

of the other thresholds previously discussed. For example, some states exempt emissions of any pollutant less than 1 tpy from a single emission source from Minor NSR permitting, if no other regulations apply.

Generally, an impact would be considered significant if it led to a violation of a Title V operating permit or synthetic minor permit.

Airspace

The Federal Aviation Administration (FAA) manages all airspace within the U.S. and its territories. The FAA recognizes the military's need to conduct certain flight operations and training within airspace that is separated from that used by commercial and general aviation.

Airspace is defined in vertical and horizontal dimensions and by time. Airspace is a finite resource that must be managed to achieve equitable allocation among commercial, general aviation, and military needs. The FAA has established various airspace designations to protect aircraft while operating near and between airports and while operating in airspace identified for defense-related purposes. Flight rules and air traffic control procedures govern safe operations in each type of designated airspace. Most military operations are conducted within designated airspace and follow specific procedures to maximize flight safety for both military and civil aircraft.

Controlled airspace is a generic term for the different types of airspace and defined dimensions within which air traffic control service is provided to instrument-flight-rules flights and visual-flight-rules flights in accordance with the airspace classification. The classifications of airspace are as follows:

- **Class A Airspace.** This airspace occurs from 18,000 feet above mean sea level (MSL) to 60,000 feet above MSL. All operations within this airspace are in accordance with regulations pertaining to instrument-flight-rules flights. This airspace is dominated by commercial aircraft using jet routes between 18,000 and 45,000 feet above MSL.
- **Class B Airspace.** This airspace occurs from the surface to 14,500 feet above MSL around the Nation's busiest airports. Before operating in Class B airspace, pilots must contact controlling authorities and receive clearance to enter the airspace. Aircraft operating within Class B airspace must be equipped with specialized electronics that allow air traffic controllers to accurately track aircraft speed, altitude, and position.
- **Class C Airspace.** This airspace occurs from the surface to 4,000 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower, are serviced by a radar approach control, and meet specified levels of instrument-flight-rules operations or passenger enplanements. Aircraft operating within Class C airspace must be equipped with a two-way radio and an operable radar beacon transponder with automatic altitude reporting equipment. Aircraft may not operate below 2,500 feet above the surface within 4 nautical miles of the primary airport of a Class C airspace area at an indicated airspeed of more than 200 knots (230 miles per hour).
- **Class D Airspace.** This airspace occurs from the surface to 2,500 feet above the airport elevation (charted in MSL) surrounding those airports that have a control tower. Class D airspace encompasses a 5 statute mile radius from the airport. Unless authorized otherwise by air traffic control, aircraft must be equipped with a two-way radio. Aircraft may not operate below 2,500 feet above the surface within 4 nautical miles of the primary airport of a Class D airspace area at an indicated airspeed of more than 200 knots (230 miles per hour).
- **Class E Airspace.** This airspace is any controlled airspace not designated as Class A, B, C, or D airspace. It includes designated federal airways, portions of the jet route

system, and area low routes. Federal airways have a width of 4 statute miles on either side of the airway centerline and occur between the altitudes of 700 feet above ground level (AGL) and 18,000 feet above MSL, but they may have a floor located at ground level at nontowered airfields. No specific equipment is required to operate within Class E airspace.

- **Class G Airspace.** Class G airspace (uncontrolled) is that portion of the airspace that has not been designated as Class A, B, C, D, or E airspace. Air traffic control does not have authority over operations within uncontrolled airspace. Primary users of Class G airspace are visual-flight-rules general aviation aircraft.
- **Special Use Airspace.** This airspace permits activities that either must be confined because of their nature or require limitations on aircraft that are not a part of those activities. Prohibited Areas and Restricted Areas are regulatory special use airspace (SUA). They are established in Federal Aviation Regulation Part 73 through the rule-making process of the Administrative Procedures Act (5 United States Code (USC) 551-702). Warning Areas, Military Operations Areas (MOAs), Alert Areas, and Controlled Firing Areas (CFAs) are non-regulatory SUA. The FAA may designate these types of SUA without resort to the procedures demanded of the Administrative Procedures Act.

Generally, a significant impact would be one that led to a violation of FAA administration regulations that undermines aviation safety or results in substantial infringement of private or commercial flight activity.

Cultural Resources

Cultural Resources include both historic properties and historic resources. The regulations guiding the management of cultural resources are set forth in Army Regulation (AR) 200-1. Cultural resources include historic properties as defined by the National Historic Preservation Act (NHPA), cultural items as defined by Native American Graves Protection and Reparation Act (NAGPRA), archeological resources as defined by Archaeological Resources Protection Act (ARPA), sacred sites as defined in Executive Order (E.O.) 13007 to which access is afforded under American Indian Religious Freedom Act (AIRFA), and collections as defined in 36 CFR 79. The NHPA of 1966, as amended, states that historic resources are “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on the National Register of Historic Places (NRHP), including artifacts, records and material remains related to such property or resource.” Cultural resources on Army installations generally refer to buildings, structures, and archaeological sites.

Significant impacts would occur if there were substantial concerns raised by Indian Tribes or Native Hawaiian Organizations regarding potential impacts to properties of religious and cultural significance to those tribes or organizations; or direct or indirect alteration of the characteristics that qualify a property for inclusion in the NRHP (may include physical destruction, damage, alteration, removal, change in use or character within setting, neglect causing deterioration, transfer, lease, sale) without appropriate mitigation.

Noise

Noise can be defined as unwanted sound that interferes with normal human activities and may disturb wildlife populations or disrupt breeding cycles. Impulse noise levels from high-intensity military activities may cause buildings and objects nearby the source to vibrate, resulting in potential structural damage.

The Noise Management Program is implemented Army-wide to protect the installation mission and to protect the health and welfare of military personnel, their Families, and civilian employees on the installation while also providing noise abatement and mitigation measures

that protects the public by reducing environmental noise from training where feasible. Army installations develop noise management plans to identify recommended land uses based on noise exposure, and to provide a noise management strategy that supports the installation's mission.

The Installation Operational Noise Management Plan (IONMP) includes education, complaint management, noise and vibration mitigation, noise abatement procedures, and the Installation Compatible Use Zone (ICUZ) Program. The ICUZ Program provides a methodology for analyzing exposure to noise and safety hazards associated with military operations and provide land use guidelines for achieving compatibility between the Army and the surrounding communities.

At this level of analysis, the Army will consider if there are actions that would expand these zones. Such expansion might be indicated, for instance, by a requirement that new ranges be established to support increased numbers of Soldiers.

Noise Impacts to the Community. The U.S. Army Public Health Command has defined three noise zones (NZs) to be considered in land use planning (see Table 4.0.4-1) and the noise impact on the community is translated into NZs. In general, within NZ I, where very few people will be bothered by the noise level, land use is unrestricted and thus deemed compatible with most noise-sensitive land uses. In NZ II, as outdoor noise levels increase and more people become annoyed by the noise, restrictions or qualifications are placed on certain land uses, specifically, residential development. NZ II is normally incompatible with noise-sensitive land uses. In NZ III, as noise levels escalate, fewer and fewer compatible land uses are indicated. NZ III is incompatible with noise-sensitive land uses.

Installations use the Land Use Planning Zone (LUPZ) to provide the means to predict possible complaints, and meet the public demand for a better description of what will exist during a period of increased operations. The associated noise levels for each zone are shown in the Table 4.0.4-1.

Table 4.0.4-1. Noise Levels

Noise Zone	Population Highly Annoyed (Percent)	Transportation (A-weighted ¹ Day-Night Average Sound Level)	Impulsive - Large Caliber (C-weighted ² Day-Night Average Sound Level)	Small Arms (Decibels A-weighted)
I	<15	<65 dBA	<65 dBA	<62 dBA
II	15 – 39	65 – 75 dBA	65 – 75 dBA	62 – 70 dBA
III	>39	>75 dBA	>75 dBA	>70 dBA

¹A weighting filters out the low frequencies and slightly emphasizes the upper middle frequencies around 2-3 kilohertz.

²By comparison, C weighting is almost unweighted, or no filtering at all.

dBA=A-weighted decibel

Noise Impacts to Wildlife. At ranges where training occurs, noise is generated from fixed-wing and rotary-winged aircraft overflights, large and small caliber weapon fire, and vehicle maneuver throughout the range. Several reference materials exist that summarize the impact of military training on wildlife. Two examples are the *Environmental Assessment for the Aerial Gunnery Range at Yakima Training Center, WA*; and, *"Effects of Military Noise on Wildlife"* (Bowles, 1990). The following responses are common in wildlife exposed to training noise.

- Quality of habitat selection tends to outweigh disturbance impacts of training noise. Animals utilize Army installations as habitat because they contain large tracts of

relatively undeveloped land. Due to regulatory policies and conservation practices, the land and wildlife are often managed to preserve species diversity and habitats where these activities do not conflict with the military mission. Generally speaking, most species of animals will choose higher quality habitats on military installations over lower quality more fragmented habitats despite the noise from military activities (Bowles, 1990).

- Habitat supplies food, shelter from the elements in some cases, and vegetative cover. Food supply is a limiting factor for survival. If the food supply is sufficient the habitat will remain preferable to the animal species regardless of the magnitude of noise disturbance, especially if the noise occurs in predictable patterns. Since Soldiers train according to a prescribed schedule, the noise generated by training reduces the occurrence of responses to unexpected training activities.
- Studies conducted on military noise impacts to wildlife have determined that mammals will move away from loud noises, but with few exceptions, will return to their home range.

Significant impacts generally include noise impacts causing reclassification of NZs to NZ II or III around sensitive receptors (e.g., residences, school, hospital, churches or daycare).

Soil Erosion

Erosion is the gradual wearing away of land by water, wind, and other general weather conditions, and can be influenced by many military and human activities within a given landscape. Erosion impacts can be influenced by the types of soils, vegetative cover, topography, weather, and climate, and may be amplified by the frequency and types of training. Soil erosion can be an important concern on military lands where maneuver training involving large vehicles (tracked and wheeled), and large and small arms fire occur. It can undermine the ability of the natural environment to support the Army mission, and once the erosion process has started, the direct effects can usually not be reversed.

The Army has numerous programs and management initiatives to reduce environmental damage to training lands. The principal mechanism for this management is the Integrated Training Area Management (ITAM) Program. The ITAM Program provides a comprehensive means to address the cumulative effects of soil erosion on Army training lands (Canton, et. al., 2006).

Significant impacts generally include soil loss or compaction from Army training to the extent that natural reestablishment of native vegetation within two growing seasons is precluded on a land area greater than a total of 1,000 acres; or loss of soil productivity due to construction activities, which convert the soil to improved infrastructure on more than 5 percent of land under administrative control of the installation.

Biological Resources (Vegetation, Wildlife, Threatened and Endangered Species)

The Endangered Species Act (ESA) was passed in 1973 to address concerns about the decline in populations of many unique wildlife species. The purpose of the ESA is to rebuild populations of protected species and conserve "the ecosystems upon which endangered and threatened species depend" (USFWS, 2001). ESA offers two classes of protection for rare species in decline: endangered or threatened. Endangered means a species is in danger of extinction throughout all or a significant portion of its range. Threatened status indicates a species is likely to become endangered within the foreseeable future. All species of plants and animals, except pest insects, are eligible for listing as endangered or threatened (USFWS, 2001).

The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) are jointly responsible for administering the ESA. As of June 6, 2012, 1,393 federally-listed species (794 plants, 599 animals) were listed under the ESA. The Army has identified 188 threatened and endangered species on 99 installations for FY 2007. By far, the most common category is plants, which account for 62 percent of the threatened and endangered species, followed by birds (14 percent). The other categories of threatened and endangered species are amphibians, crustaceans, fish, insects, mammals, other invertebrates, reptiles, and snails (USAEC, 2009). Out of these species, 112 occur on locations evaluated in this PEA. All federal agencies are required to protect threatened and endangered species while carrying out projects and to preserve threatened and endangered species habitats on federal land. The USFWS and NMFS also coordinate threatened and endangered species conservation efforts with state agencies and private landowners. Ideally, with sufficient protection under the ESA, the threatened and endangered species populations will recover to the point that they no longer need protection under the ESA. To facilitate this process, a team of experts develops a recovery plan that describes the steps needed to restore the species to health.

Under the ESA, it is illegal to “take” threatened and endangered species. As defined in the ESA, “the term take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct.” The Secretary of the Interior has defined the term “harm” as “an act which actually kills or injures wildlife.” Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife, or by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering (USFWS, 2001). Because most threatened and endangered species are not often hunted or collected, habitat degradation is the primary reason for population declines of listed species.

The ESA contains provisions for designation of “critical habitat” for listed species when deemed essential for the conservation and recovery of a species. Critical habitat includes geographic areas “on which are found those physical or biological features essential to the conservation of the species and which may require special management considerations or protection” (USFWS, 2001). Areas not occupied by the species at the time of listing but are considered essential to the conservation of the species can be designated as critical habitat. Critical habitat designations are limited to federal agency actions or federally-funded or permitted activities.

Under Section 7 of the ESA, federal agencies (including the Army) must carry out programs for the conservation of threatened and endangered species. Installations must also adopt integrated natural resources management plans, which include provisions for the conservation of these species and their habitats.

Significant impacts would include:

- Substantial permanent conversion or net loss of habitat at landscape scale;
- Long-term loss or impairment of a substantial portion of local habitat (species-dependent); and
- Unpermitted “take” of threatened and endangered species.

Wetlands

For regulatory purposes under the Clean Water Act (CWA), the term wetlands means “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions [40 CFR 232.2(r)]. There are many different kinds of wetlands to include swamps, marshes, bogs, and similar areas. Wetland definitions can vary by agency, regulations, and policy. Wetland functions are of value to the sustainable management of military lands because of the ecological functions wetlands

they provide in addition to training realism. Three wetland functions applicable to sustainable management are flood attenuation, groundwater recharge, and improvement of water quality by filtering sediment, nutrients, and toxics.

The National Wetlands Inventory (NWI) of the USFWS has identified and mapped most of the known wetlands in the conterminous U.S., including those on military installations. DoD Instruction 4715.3 states that installations will manage for “no net loss” of wetlands. In order to manage wetlands properly, installations have used the NWI and have conducted planning level surveys to determine the extent and location of wetlands across their installation. By identifying wetlands early in the NEPA process, and utilizing a “Go/No-Go” approach where avoidance is preferred to direct or indirect impacts, installations have the ability to avoid costly mitigation and potential delays in implementation of the Proposed Action.

Significant impacts would include unpermitted loss or destruction of more than one acre of jurisdictional wetlands.

Water Resources

Water resources include surface water, groundwater, and floodplains, as well as other conservable resources such as estuaries and watersheds. Surface water is important for its contributions to the economic, ecological, recreational, and human health of a community or locale. Stormwater flows, which may be exacerbated by high proportions of impervious surfaces (e.g., buildings, roads, and parking lots), are important to the management of surface water. Stormwater is also important to surface water quality because of its potential to introduce sediments and other contaminants into lakes, rivers, and streams. Groundwater consists of the subsurface hydrologic resources. It is an essential resource often used for potable water consumption, agricultural irrigation, and industrial applications. Groundwater typically may be described in terms of its depth from the surface, aquifer or well capacity, water quality, surrounding geologic composition, and recharge rate. Floodplains are areas of low-level ground present along a river or stream channel. Such lands may be subject to periodic or infrequent inundation due to rain or melting snow. Risk of flooding depends on topography, the frequency of precipitation events, and the size (areal extent) of the watershed above the floodplain. Federal, state, and local regulations generally limit development in floodplains to passive uses, such as recreational and preservation activities, in order to reduce the risks to human health and safety.

The CWA gives the EPA authority to regulate the discharge of pollutants into the waters of the U.S. It set the ground rules for implementing pollution control programs as well as continuing the requirement to set water quality standards for all surface water contaminants. The EPA establishes thresholds for pollution and contaminants to water bodies that are referred to as Total Maximum Daily Load (TMDL). A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still safely meet water quality standards. If these thresholds are exceeded, the water body is classified as impaired.

Army activities subject to CWA regulation include activities involving the collection and discharge of effluents (e.g., discharging pollutants from a point source into waters of the U.S.) or construction activities near waterways or wetlands. Several compliance responsibilities under the CWA result from the types of facilities used by the Army and the range of activities at Army installations.

Significant impacts would include the exceedance of TMDLs for sediments that causes a change in surface water impairment status, or an unpermitted direct impact to a water of the U.S.

Facilities

Army real property includes lands, facilities, and infrastructure. Facilities are the buildings, structures, and other improvements that support the Army's mission. Infrastructure is the combination of supporting systems that enable the use of land and resident facilities.

Infrastructure consists of the systems and physical structures that enable a population in a specified area to function. Infrastructure is wholly synthetic, with a high correlation between the type and extent of infrastructure and the degree to which an area is characterized as "urban", or developed. The availability of infrastructure and its capacity to support growth are generally regarded as essential to economic growth of an area. Although there is no national consensus as to what constitutes infrastructure, the following reflect the principal elements most often associated with the term: water systems, wastewater systems, stormwater systems, solid waste management, energy, traffic and circulation, transportation systems, and communication systems.

Adding Soldiers to an installation could create a need for new facilities, requiring construction and the impacts that would accompany it, and possibly renovation of historic buildings. Reducing strength could mean that excess facilities would be demolished or receive less maintenance. It could also mean that infrastructure use would decrease and this could cause problems for certain systems. For instance, water pipe systems often require a certain flow for optimum operation.

Significant impacts would occur if the capacity of current infrastructure or available space could not support the Proposed Action or if violation of regulatory limits occurs.

Socioeconomics

Socioeconomics are defined as the basic attributes and resources associated with the human environment, particularly population and economic activity. Population levels are affected by regional birth and death rates, as well as immigration and emigration, which are often related to regional employment availability. Economic activity typically encompasses employment, personal income, and industrial or commercial growth. Changes in these two fundamental socioeconomic indicators may be accompanied by changes in other components, such as housing availability and the provision of public services. Socioeconomic data at county, state, and national levels permit characterization of baseline conditions in the context of regional, state, and national trends.

The principal factors affecting socioeconomics at Army installations are construction project expenditures; salaries (Soldier, civilian, and contractor); procurement of goods and services locally and regionally by Soldiers, civilians, and their Family members; and employment changes. As the Army increases or decreases either expenditures or employment (Soldier or civilian) at an Army installation, these impacts are felt within the economic ROI; by businesses, local governments, and individuals. Impacts from military stationing actions can manifest themselves as a loss or gain in jobs; change in real estate values; change in educational, social, and medical services; or change in state or local tax revenue. Installation changes in Soldier or civilian employee populations could result in varying degrees of economic impact depending on the economic diversity and size of the regional economy. The ROI consists of the installation and the counties where the people who work on the installation live, or where they or the installation itself obtain goods and services.

Socioeconomic impacts are linked through cause-and-effect relationships. With the Proposed Action, there would be direct impacts from proposed military employee (Soldier and civilian employee) changes. Impacts to jobs, income, business volume, and personal spending in the ROI would all be anticipated. These changes in Soldier and government civilian employee

1 population would also be associated with some change in the need for contract support and
2 lead to indirect impacts through a reduction in the overall demand for goods and business
3 services within the region. Economic modeling and forecasting provide an estimate of the
4 potential intensity of socioeconomic impacts. Modeling provides a method of qualifying and
5 quantifying certain potential monetary and employment impacts of the Proposed Action.

6 In order to model the socioeconomic impacts of the alternatives evaluated in this PEA, the Army
7 primarily utilized the Economic Impact Forecast System (EIFS), to determine and quantify the
8 magnitude of economic impact. EIFS was developed in support of BRA stationing actions, and
9 has been the Army's primary modeling tool for economic impacts since the late 1990s.

10 EIFS is a computer-based economic tool that calculates an estimate of the direct and indirect
11 effects resulting from a given action. Changes in installation employment and spending
12 represent the direct effects of the action. On the basis of the input data and calculated
13 multipliers, the model estimates ROI changes in sales volume, income, employment, and
14 population, accounting for the direct and indirect effects of the action. The model projects an
15 estimated total change in population, employment, income, and sales volume for the defined
16 ROI as a whole. In coordination with the staff of potentially affected installations, the USACE
17 conducted economic modeling of impacts using the EIFS model to determine the intensity of
18 economic impacts for each installation's ROI. EIFS projections of changes in total employment,
19 income, and sales are all presented in each installation analysis section.

20 The databases in EIFS are national in scope and cover the approximately 3,700 counties,
21 parishes, and independent cities that are recognized as reporting units by federal agencies.
22 EIFS allows the user to define an economic ROI by identifying the counties, parishes, or cities to
23 be analyzed. Once the ROI is defined, the system aggregates the data, calculates multipliers
24 and other variables used in the various models in EIFS, and prompts the user for forecast input
25 data. For purposes of the EIFS analysis, a change is considered significant if it falls outside the
26 historical range of ROI economic variation. To determine the historical range of economic
27 variation, the EIFS model calculates a rational threshold value (RTV) profile for the ROI. This
28 analytical process uses historical data for the ROI and calculates fluctuations in sales volume,
29 income, employment, and population patterns. The positive and negative historical extremes for
30 the ROI become the thresholds of significance (i.e., the RTVs) for economic change. If the
31 estimated effect of an action falls above the positive RTV or below the negative RTV, the effect
32 is considered to be significant (see EIFS and RECON explanatory example, below).

33 For the purposes of this socioeconomic impacts analysis, the Army recognizes that the EIFS
34 modeling tool has some potential for inaccuracy in its definition of RTVs. For example, the EIFS
35 model utilizes data for regional economic variability that ranges from the years 1969 through
36 2000. Unfortunately, given the timeframe for these Army-wide decisions, it was not possible to
37 update the EIFS model to reflect the latest economic data in the model. Determinations of
38 "significant" economic impacts and EIFS RTV values are, therefore, based on the economic
39 fluctuation that occurred between 1969 and 2000, and do not account for some of the more
40 extensive fluctuations that have occurred in the past decade. To some extent, exclusion of the
41 fluctuations of 2008 and the recent recession from the RTV calculations leads to a more precise
42 determination of significance. Inclusion of the 2008 data would raise the threshold for
43 significance and mask impacts that would otherwise be identified as significant. Use of the older
44 data from economically more stable years could only result in more, rather than fewer, impacts
45 being identified as significant, and, therefore, represents a more conservative assumption for
46 purposes of this analysis. The Army has used current census and economic data to update
47 EIFS and all other economic measurements.

To validate the results of EIFS, the Army also used the Regional Economic System (RECONS) model as a predictor of potential economic impacts. The RECONS model is a regional economic impact tool, which forecasts changes to the regional economy's sales, jobs, and income. RECONS provides a snap-shot in time of the anticipated socioeconomic impacts to the region. Unlike EIFS, the RECONS model was not specifically developed as a tool to model economic impacts of Army stationing activities. It was primarily developed to estimate the impact of cancellation or implementation of USACE civil works projects in a given region. For the purposes of this PEA analysis, however, data inputs similar to those in EIFS were utilized to generate a comparable projection of economic impacts, so that predictive data from the two models could be utilized to assess and compare impacts. Data inputs and discussion of how modeling data were utilized is presented in the Socioeconomics Analysis Methodology section below. Unlike EIFS, the RECONS model does not generate a significance threshold.

Socioeconomics Analysis Methodology. All installation stationing scenarios were uniformly evaluated using a consistent methodology to ensure comparable impacts are presented between the two models utilized. The full-time military employee population was obtained from the Army Stationing and Installation Plan (ASIP) (February, 2012). The baseline population numbers used for the evaluation of impacts includes permanent party Soldiers and full-time Army civilian employees. To update the EIFS model with the latest population 2010 census data, the data from each of the counties within the installation ROI were collected. Military personnel residing on-post were not captured in the 2010 census data for counties on which the installation is located, as installations are federal property, so the affected installations provided numbers of Soldiers and Family members living on post. The updated population of military and their dependents residing on the installation was then added to the ROI population. Estimates of non-farm employment within ROIs were obtained from the U.S. Census Bureau quickfacts website (<http://quickfacts.census.gov>). These estimates provided employment numbers for each county through 2009, and were used to estimate total non-farm employment within the ROI. These were the most recent data available at the time the analysis was prepared that could be used to generate employment estimates for the specific installation ROIs. While this data does not capture the full impact of the economic downturn that began in late 2008, it does capture a portion of the impacts to ROI employment.

For all installations, an estimate of the total number of dependents was generated using the latest data from the Defense Manpower Data Center (DMDC). For example, in 2011, 55.8 percent of full-time Army Soldiers were married. All Soldiers had, on average, 0.96 children ages 0-18 (DMDC, 2012). These percentages of 55.8 percent married and 0.96 children per Soldier were used in estimating the total population of dependents within the ROI. To calculate the number of dependents associated with an installation in the ROI population, the Army multiplied the number of full-time Army Soldiers and civil service employees by 55.8 percent to determine the projected number of spouses. The Army took the same full-time population of military employees and multiplied this number by 0.96 to calculate the number of dependent children associated with the installation population. These two numbers were then added together to obtain the total estimate of dependents likely to be associated with the installation's population in the ROI. Student trainees that are not on permanent change of station (PCS) status were not included in the estimate of dependents, as students and trainees are not usually accompanied by Family members.

Using this methodology to calculate dependent percentages may result in slightly higher estimates of the potentially affected dependent population than might otherwise be predicted; however, the Army chose to be conservative in its methodology so as not to underestimate impacts. There are three reasons the estimates of ROI dependent population are likely high. First, not all dependent spouses and children accompany their military sponsor to an

1 installation. The Army does have a small percentage of “geographic bachelors/ bachelorettes”
2 who do not bring their Families to the installation when assigned there. Second, some Soldiers
3 with dependent children are no longer married and do not have custody of those children within
4 the ROI. Third, for all military employees, the estimate uses Soldier rates for marriage and child
5 dependents, which are slightly higher than the comparable ratios for civilians.⁹ The proposed
6 alternatives include a mix of Soldiers and civil servants. In estimating the total potentially
7 affected population, the higher Soldier percentages were utilized to estimate the total military
8 and DoD civilian impacts, because a majority of those impacted by the alternatives would be
9 Soldiers and not civilians.

10 To assess the ROI’s loss or gain in population, the estimated change in dependents was added
11 to the total number of proposed installation military employees lost or gained. To calculate the
12 change in population, this total projected change in military employees and dependent
13 population was divided by the total population estimate within the ROI (see EIFS and RECONS
14 explanatory example below).

15 RECONS data is also presented in each installation socioeconomic consequences discussion
16 and its projections are compared to those of EIFS. The RECONS model presents an estimate
17 of total sales volume impacts, income, and employment impacts. The RECONS model
18 projections do not include a projection of the direct income and jobs impacts of stationing
19 realignments being proposed under each alternative. For example, if an installation alternative
20 included the loss of 1,000 military employees, the direct loss of income (1,000 x average salary)
21 and those jobs must be added back into the total RECONS model output to obtain the total
22 impact, as the RECONS model only provides data outputs to quantify the projected indirect and
23 secondary economic impacts to the surrounding community, but not the direct economic
24 impacts of the employment change itself. To make RECONS estimates consistent with EIFS
25 outputs, the calculation of direct economic impacts from the Army’s Proposed Action were
26 added to the model’s estimates. To calculate RECONS income impacts, for example, the total
27 direct impacts of the proposed alternatives (military employees x income), characterized as the
28 “direct impact” in EIFS, was added back into the RECONS model by adding this direct impact
29 number to regional data outputs in RECONS. These direct impacts numbers for income were
30 added to business support services and secondary effects numbers to generate an
31 approximation of total impact to income in the ROI. Adding business support services and
32 secondary effects estimates from RECONS will present a figure analogous to “indirect”
33 economic impact for EIFS. When these figures are added to include the direct impacts of a
34 proposed stationing action, a total income figure is generated by RECONS that will present a
35 comparable estimate to the EIFS model. At a multi-BCT installation, a total military population
36 loss of 8,000 Soldiers and civil servants could potentially occur. The average salary estimate of
37 these personnel (\$41,830)¹⁰ is multiplied by the number of personnel directly impacted (8,000),
38 and this must be added back into the RECONS impact projections of direct regional business
39 reductions, or projected reductions in contractor support, and indirect loss of jobs in the ROI that
40 are not connected to the military but result simply from a reduced regional demand in goods and
41 services. When this is done, an estimate of both income loss or gain is obtained. Each section
42 then compares this data to EIFS projections for the ROI.

⁹ The overall average marriage rate for the civilian population in the U.S. in 2012 was 49 percent, and the average number of dependents is 0.91 per adult (U.S. Census, 2012).

¹⁰The average salary for a Soldier in an IBCT is \$41,830. This figure was used for the average salary of all Soldiers who could potentially be eliminated at installations. Because the Army does not know which units would be involved, it is impossible to determine the precise salaries that would be at stake; \$41,830, the yearly salary of a mid-career non-commissioned officer, was selected. The IBCT serves as a good representative example. The analysis also uses \$41,830 as the average salary for civilian employees. This amount is the approximate salary for employees in the GS 5-9 range. Again, the Army does not know which civilian employees would be involved in reductions, but \$41,830 is valid as an average salary for civilians involved in potential reductions.

In order to provide the most updated analysis for two of the most important socioeconomic impact indicators, the Army updated employment and income values using the most recent data (i.e., 2009 Census quickfacts data).

Income forecast values were updated by multiplying per capita money income for each county by overall county population, to determine the overall income for the ROI. The total change in income as determined by the EIFS and RECONS models (see 'Total' under 'Income' in Tables 4.0.4-3 and 4.0.4-4) was then divided by the new income total to determine the new percentages of increase/decrease in income in the ROI (see 'Percent' under 'Income' in Tables 4.0.4-3 and 4.0.4-4).

Similarly, employment forecast values were updated by combining private non-farm employment figures for each county with on-post military employment totals to determine the total private non-farm employment for the ROI. The total change in employment as determined by the EIFS and RECONS models (see 'Total' under 'Employment' in Tables 4.0.4-3 and 4.0.4-4) was then divided by the new employment total to determine the new percentages of increase/decrease in employment in the ROI (see 'Percent' under 'Employment' in Tables 4.0.4-3 and 4.0.4-4).

The installation impact discussions also present a calculation of predicted change to state tax revenue. This figure is generated by taking the total sales volume reduction and multiplying it by the state tax rate. At some installations, two states may be impacted. In these situations, the distribution of impacts are discussed, though precise estimates of the apportionment of how state tax revenue would be lost or gained was not an output of the models.

Economic Impact Forecast System and Regional Economic System Explanatory Example. Tables 4.0.4-2 through 4.0.4-4 are examples of the EIFS and RECONS tables provided for each installation.¹¹ As discussed above, significant impacts would occur if a forecast value falls outside of the economic growth or contraction significance values as shown in 4.0.4-2. For example, the sales volume, income, and employment forecast values are within the forecast ranges in Table 4.0.4-2; while the population change is outside the range (-2.44, where the range is 3.21 to -1.57). Population change is a significant socioeconomic impact because it falls outside of this range. Details on the calculations of sales volume, income, employment, and population are discussed above under Socioeconomics Analysis Methodology.

Table 4.0.4-2. Example Economic Impact Forecast System and Rational Threshold Value Summary of Implementation of Alternative 1

Region of Influence Economic Impact Significance Thresholds	Sales Volume (Percent)	Income (Percent)	Employment (Percent)	Population (Percent)
Economic Growth Significance Value	7.56	8.06	3.74	3.21
Economic Contraction Significance Value	- 8.16	- 7.74	- 4.23	- 1.57
Forecast Value	- 2.16	- 1.93	- 3.66	- 2.44

¹¹ Tables are taken from Section 4.5 (Fort Carson) and are the actual tables of predicted economic impacts associated with the implementation of Alternative 1 at Fort Carson.

Table 4.0.4-3. Economic Impact Forecast System: Summary of Projected Economic Impacts of Implementation of Alternative 1

Region of Influence Impact	Sales Volume	Income	Employment	Population
Total	- \$554,736,100	- \$417,692,300	- 8,844 (Direct) - 2,017 (Indirect) - 10,861 (Total)	- 20,144
Percent	- 2.16 (Annual Sales)	- 1.93	- 3.66	- 2.44

Table 4.0.4-4. Regional Economic System: Summary of Projected Economic Impacts of Implementation of Alternative 1

Region of Influence Impact	Sales Volume	Income	Employment
Total	- \$365,808,847 (Local) - \$647,147,505 (State)	- \$406,640,553	- 9,037 (Direct) - 1,152 (Indirect) - 10,189 (Total)
Percent	- 1.42 (Total Regional)	- 1.88	- 3.4

The basis of the EIFS analytical capabilities is the calculation of multipliers that are used to estimate the impacts resulting from military-related changes in local expenditures or employment. In calculating the multipliers, EIFS uses an economic modeling approach, which relies on the ratio of total economic activity to basic economic activity. Basic, in this context, is defined as the production or employment engaged to supply goods and services outside the ROI or by federal activities (such as military installations and their employees). According to economic base theory, the ratio of total income to basic income is measurable (as the multiplier) and sufficiently stable so that future changes in economic activity can be forecast. This technique is especially appropriate for estimating aggregate impacts and makes the economic base model ideal for the NEPA process.

Depending on the size and diversity of the economy within the ROI, a different set of multipliers may be used to predict the economic impacts. In Table 4.0.4-3, EIFS predicts that for the regional economy, the loss of 8,000 jobs as part of the implementation of Alternative 1 would lead to the collateral loss of an additional 2,861 jobs (a multiplier of -.36). Total sales volume would be generated by multiplying total income in Table 4.0.4-3 by an EIFS multiplier of 1.32 to get total estimated impacts to sales volume. In RECONS, the income figure is multiplied by two separate multipliers, one for the region, and one for the state. The multipliers will vary depending on the regional setting and if the installation ROI is predominately rural, semi-rural, or urban. In the example in Table 4.0.4-4, income at the regional level is multiplied by approximately .89 to obtain regional impacts to sales and a multiplier of 1.59 to obtain impacts at the larger state level. EIFS does not distinguish between the two geographic scales and its multiplier of 1.32 falls between the two RECONS estimates. The percentage of sales is the amount of change calculated based on annual sales for the ROI. For example, in Table 4.0.4-3 the loss in sales predicted by EIFS is - \$554,736,100. This represents a change of -2.16 percent of annual sales in the ROI, which has a total estimated sales volume of approximately \$25.68 billion. For the RECONS prediction of -1.42 percent change predicted in Table 4.0.4-4, the total change in sales volume (locally) is divided by total sales within the ROI, as well. So, for example, RECONS predicts a change in sales volume of \$365,808,847, which equates to an estimated change in sales of -1.42 percent within the ROI when divided by the total ROI sales volume of approximately \$25.68 billion. The income percentage is based on the loss or gain in income over the total of non-farm income for the ROI. Total employment within the ROI was added using estimates of 2009 employment from the U.S. Census Bureau for each county or

parish within the ROI.¹² The estimates of ROI employment were then multiplied by the median income and added to the total income of those living on post to determine the total income within the ROI. Individuals living on post were not included in U.S. Census Bureau employment or income figures; and, their estimated income was also added to the total income of the ROI. The percentage of change was then calculated by dividing the predicted change in income by total ROI income. The percentage of population change is based on the predicted change over the ROI population. For each socioeconomic analysis, 2010 census data was used to calculate the populations of the ROI off post, and populations residing on post were then added to the totals. For example, EIFS predicts a change in population of -20,144 total individuals associated with a reduction of 8,000 military employees in Table 4.0.4-3. This includes Soldiers, Army government civilians, and their dependents. To obtain the estimated percentage loss this represents within the ROI, the populations of each county were added to the estimate of the on-post population. When -20,144 was divided by the ROI population of approximately 825,000 people, the percentage of population change was determined to be -2.44 percent, which falls outside of the EIFS significance threshold value and would, therefore, be predicted to be significant.

Socioeconomic Impacts. Installation population loss under the Proposed Action would negatively impact regional economies. Cities, towns, and counties in the ROI, whose economies are supported by military employment, contribute to local and regional employment and economic activity and could be adversely affected.

An installation principally affects local communities through salaries paid to Soldier and civilian employees, and subsequently spent in the local economy; and through procurements in the local economy, which can include purchases and contracts. Installation personnel reductions would be expected to result in adverse economic impacts due to the loss of jobs, income, and sales in an affected region.

In addition, adverse impacts to regional community services and schools could occur because they receive funding, support, time, donations, and tax revenue directly related to the installation military authorizations and their dependents. The housing market, public health and safety services, Family support services, and recreational facilities could also be affected. Most Army installations included in this analysis have a considerable percentage of the Soldier and civilian population that rents or owns homes off post. Increases or decreases in the number of Army personnel assigned to a given installation can, therefore, have direct impacts on housing demand and the local housing market. In addition, the need for public services and recreational facilities in the surrounding communities can also fluctuate with Army stationing decisions.

Installation population gains would represent beneficial economic impact within the ROI. Gains also can have variable impacts to school districts with regard to student population. It would be anticipated that most Soldiers would be accompanied by their Families and that there would be an increase in school student population growth; this increase could also result in more impact aid for the schools.

Environmental Justice (E.O. 12898) analysis requires federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of federal agency programs, policies, and activities on minority and low-income populations. Minority populations are identified as Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and other Pacific Islander, Hispanic, of two or more races, and other. The Proposed Action may have disproportionate or adverse health impacts on low-

¹² 2009 employment estimates were the latest employment estimates that were universally available for all counties and parishes within the installation ROI; these numbers were obtained from the U.S. Census quickfacts website (<http://quickfacts.census.gov/qfd/index.html>).

income or minority populations in that it may involve adverse economic impacts to communities with higher minority populations than the state as a whole. Within the ROI, however, the economic effect would be distributed among community members regardless of race, ethnic origin, or economic status, and therefore is not disproportionate.

In addition, E.O. 13045 requires federal agencies to identify and assess environmental health risks and safety risks that may disproportionately affect children. Such risks to health and safety are attributable to products or substances that a child would be likely to come in contact with or ingest. The impacts of the alternatives are not projected to have disproportionate adverse impacts on children, because no aspects of the action would be anticipated to increase the risks described in the E.O.

Significant impacts would include:

- Long-term substantial loss or displacement of recreational opportunities and resources relative to baseline;
- Substantial disproportionate environmental health or safety risk to children;
- Substantial increased public safety hazard from military operations;
- A regional job decline or regional income decline that exceeds 5 percent according to the RECONS model;
- Indication from Economic Modeling that impact to the economy would exceed RTV or historical precedent for past economic fluctuation for employment and regional income; and
- Substantial disproportionate adverse environmental economic, social, or health impacts on minority or low-income populations.

Energy Demand and Generation

The primary sources of energy on Army installations are electricity, natural gas, fuel oil, propane, and to a much lesser extent, solid fuels, such as coal and wood. Army installations use all of these forms of energy. Choices regarding energy can extend to selection of type of fuel, conservation measures, availability, costs, or consumption rates. Energy consumption is perhaps the major infrastructure and budgetary challenge to Army leadership, encompassing both domestic challenges and garrison and tactical challenges abroad. Power generation, transmission, and use have major economic, environmental, and mission implications (Canton, et al., 2006). Changes in installation stationing, could result in changes to installation energy use. Significant impacts would occur if the energy demands of the Proposed Action exceed the capacity of existing transmission infrastructure or the generating capacity of the energy provider.

Land Use Conflicts and Compatibility

Land use refers to the planned development of property to achieve its highest and best use and to ensure compatibility among adjacent uses. In the Army, land use planning is the mapping and planned allocation of the use of all installation lands based on established land use categories and criteria (Canton, et al., 2006).

The land use planning process is iterative because it needs feedback and ideas from the installation unit, tenant organizations, and residents. Land use planning is used on a continuing basis as a component of real property master planning.

An installation's Real Property Master Plan, which typically covers a 20-year planning horizon, is focused on the management and development of real property resources. This plan should contain information that is vital for addressing cumulative effects on land use. The Real Property Master Plan analyzes and integrates the plans prepared by the Director of Public

1 Works and other garrison staff, mission commanders, and other tenant activities, higher
2 headquarters, and those of neighboring communities to provide for orderly development, or in
3 some cases, realignment and closure of real property resources (DA, AR 210-20, May 2005).

4 Change to land use under the Proposed Action could occur if additional land has to be
5 converted to use for training or if land currently used for administrative buildings is converted to
6 another use when the buildings are eliminated. Such changes would be reflected through
7 changes to the master plan.

8 Significant impacts generally would occur when more than 5,000 acres of land is removed from
9 public use. This amount is a matter of context and intensity, however, and could vary depending
10 on the size of the installation.

11 **Hazardous Materials and Hazardous Waste**

12 Hazardous material is defined as any substance with the physical properties of ignitability,
13 corrosivity, reactivity, or toxicity that might cause an increase in mortality, serious irreversible
14 illness, and incapacitating reversible illness or that might pose a substantial threat to human
15 health or the environment. Hazardous waste is defined as any solid, liquid, contained gaseous,
16 or semisolid waste or any combination of wastes that poses a substantial present or potential
17 future hazard to human health or the environment.

18 Evaluation of environmental impacts from hazardous materials and wastes focuses on
19 underground storage tanks (USTs) and aboveground storage tanks (ASTs) and the storage,
20 transport, and use of pesticides and herbicides; fuels; petroleum, oils, and lubricants (POLs),
21 and a variety of chemicals. Impacts also may occur with the generation, storage, transportation,
22 and disposal of hazardous wastes when such activities occur at or near the project site of a
23 Proposed Action. In addition to being a threat to humans, the improper release of hazardous
24 materials and wastes can threaten the health and well-being of wildlife species, botanical
25 habitats, soil systems, and water resources. In the event of a release of a hazardous materials
26 or wastes, the extent of contamination varies based on type of soil, topography, and water
27 resources.

28 In general, hazardous material and hazardous waste issues are governed by such statutes as
29 the Resource Conservation and Recovery Act (RCRA), Toxic Substances Control Act (TSCA),
30 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), CAA,
31 CWA, Safe Drinking Water Act (SDWA), Federal Facilities Compliance Act, Military Munitions
32 Rule, and Federal Hazardous Materials Transportation Law. ARs and E.O.s have also been
33 established pursuant to these and subsequent federal and state regulations.

34 Special hazards are those substances that might pose a risk to human health but are not
35 regulated as contaminants under the hazardous waste statutes. Included in this category are
36 asbestos, radon, lead-based paint (LBP), polychlorinated biphenyls (PCBs), and unexploded
37 ordnance (UXO). The presence of special hazards or controls over them may affect or be
38 affected by implementation of the stationing actions described in this PEA. Information on
39 special hazards describing their locations, quantities, and condition assists in determining the
40 significance of the effects of the Proposed Action.

41 Significant impacts would occur when substantial additional risk to human health or safety would
42 be attributable to Army actions.

43 Table 4.0.4-5 shows examples of hazardous materials and hazardous waste issues that could
44 occur as a result of the Proposed Action alternatives.

Table 4.0.4-5. Facilities: Hazardous Materials and Waste Issues

Action Alternative	Issues
Use of Existing Facilities	Underground storage tanks maintenance and replacement
	Existing lead-based paint
	Existing asbestos
	Existing equipment with polychlorinated biphenyls
	Radon
Renovation of Existing Facilities	Underground storage tanks replacement and disposal
	Lead-based paint removal and disposal
	Asbestos disposal
	Replacement of polychlorinated biphenyls-containing equipment
	Radon
Demolition of Existing Facilities	Underground storage tank disposal
	Lead-based paint disposal
	Asbestos disposal
	Disposal of polychlorinated biphenyls-containing equipment
Construction of New Facilities	Installation of underground storage tanks
	Radon

USACE, 2002. Final Programmatic Environmental Impact Statement for Army Transformation. Prepared by USACE Mobile District. February, 2002.

Traffic and Transportation

Traffic and transportation systems refer to organized means of moving people and commodities (Canter et al., 2006). Principal transportation systems include commercial air carriers, waterway and maritime shipping, railroads, and trucking. Movement of people by privately owned vehicles (POVs) on a local or regional scale is related to traffic and circulation. In many instances, the location and availability of transportation system hubs and their capacities, can affect or be affected by installation activities. The smooth flow of traffic and the adequacy of on post and off post road networks to move people efficiently contribute materially to the quality of the human environment in the vicinity of the installation. Unless mitigation measures are implemented, increased volume can pose an additional risk to the safety of pedestrians and bicyclists.

Traffic impacts could include congestion and delays on public roadways and key access points within and near the installation. In the event that an installation is selected to receive additional Soldiers, site-specific traffic studies may be required.

Significant impacts would generally occur when a reduction by more than two Levels of Service (LOS) at roads and intersections within the ROI occurs.

4.0.5 Cumulative Effects Analysis Methodology

CEQ regulations implementing NEPA define a “cumulative impact” as follows:

“Cumulative impact is the impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions regardless of what agency (federal or

1 *non-federal) or person undertakes such other actions. Cumulative impacts*
2 *can result from individually minor but collectively significant actions taking*
3 *place over a period of time.” (40 CFR §1508.7).”*

4 EPA guidance to reviewers of cumulative impacts analyses further adds:

5 *“...the concept of cumulative impacts takes into account all disturbances*
6 *since cumulative impacts result in the compounding of the effects of all*
7 *actions over time. Thus, the cumulative impacts of an action can be*
8 *viewed as the total effects on a resource, ecosystem, or human community*
9 *of that action and all other activities affecting that resource no matter what*
10 *entity (federal, non-federal or private) is taking the action (EPA, 1999).”*

11 For the purposes of this PEA, significant cumulative impacts would occur if incremental impacts
12 of the Proposed Action, added to the environmental impacts of past, present, and reasonably
13 foreseeable actions, would exceed significance thresholds for resources at an installation and
14 the surrounding regions. The Army considered a wide range of past, present, and reasonably
15 foreseeable future actions by researching existing literature and contacting local area planners
16 and state and federal agencies to identify other projects in the region of each installation that
17 could contribute to cumulative environmental impacts. The Army considered other past,
18 present, or foreseeable future actions regardless of whether the actions are similar in nature to
19 the Proposed Action or outside the jurisdiction of the Army.

20 Cumulative impacts are addressed within each installation section following the discussion of
21 environmental consequences for each alternative. This installation cumulative effects analysis
22 offers a fuller understanding of resource conditions that implementation of the Proposed Action
23 might magnify, amplify, or otherwise exacerbate or cause beneficial or adverse impacts to
24 resources on a regional or long-term scale. There are few impacts from actions proposed for
25 installations that when taken together have the potential to cause a nationwide cumulative
26 impact. These few potential impacts are discussed in Section 4.24.

27 Generally, installation analyses included past and present impacts in the discussion of the
28 affected environment, and, therefore, most of the cumulative impacts discussion addresses
29 reasonably foreseeable future actions.

